Socioeconomic determinants of health: towards a national research program and a policy and intervention agenda

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Commonwealth Department of Health and Aged Care

QUT

Queensland University of Technology

In association with the Health Inequalities Research Collaboration

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Executive summary

Since the release of *The Black Report* in the United Kingdom in 1980, there has been increased international interest in socioeconomic health inequalities. During the last two decades we have witnessed a proliferation of research interest in this area and a number of countries have established nationally coordinated research programs that focus specifically on socioeconomic status (SES) and health. Within the Australian context there is also clear evidence of a sustained and growing interest in socioeconomic health inequalities. Since the late 1960s a large number of empirical studies and discussion papers, books and book chapters, and reports and monographs have been published on this topic.

This report has four primary objectives:

1. To review Australian research pertaining to socioeconomic health inequalities;
2. To provide a descriptive profile of Australia's research capacity vis-à-vis socioeconomic health inequalities;
3. To critically examine the policies and interventions that have been suggested to reduce socioeconomic health inequalities;
4. To make a number of preliminary recommendations about the development of a national health inequalities research program and a policy and intervention agenda.

This report utilises a conceptual framework that identifies the multi-level and diverse determinants of socioeconomic health inequalities. The structure and content of the framework, and the identified relationships between each of its major components, are based on the existing scientific evidence. Its conceptualisation has also been informed by a broader understanding of the determinants of health. The framework consists of three discrete yet closely interrelated stages or levels, namely, *upstream, midstream, and downstream*. The upstream (or macro-level) factors include international influences, government policies, and the fundamental determinants of health (i.e. social, physical, economic and environmental). The midstream (or intermediate-level) factors include psychosocial factors, health-related behaviours and the role played by the health care system. The downstream (or micro-level) factors include changes to physiological systems and biological functioning brought about as a consequence of the influence of factors operating at the midstream and upstream levels.

Taken as a whole, the evidence on SES and health in Australia is unequivocal: those who occupy positions at lower levels of the socioeconomic hierarchy fare significantly worse in terms of their health. Specifically, persons variously classified as 'low' SES have higher mortality rates for most major causes of death, their morbidity profile indicates that they experience more ill-health (both physiological and psychosocial), and their use of health care services suggests that they are less likely to act to prevent disease or detect it at an asymptomatic stage. Moreover, socioeconomic differences in health are evident for both females and males at every stage of the life-course (birth, infancy, childhood and adolescence, and adulthood) and the relationship exists irrespective of how SES and health are measured.

The report considers some of the important and relevant components of the country's existing research capacity and infrastructure vis-à-vis SES and health, and it examines the Australian performance in terms of its contribution to the international evidence base. By all accounts, the Australian research performance in this area, although hard to quantify precisely, has been significant both nationally and internationally. However, there are a relatively small number of universities and research centres that have made a very significant contribution. Considering the lack of critical research mass and the complexity of this area of research, the performance has been very impressive by any standards.

Looking towards the future though, and considering the fact that the very significant burden of disease and illness associated with social and economic disparities is one of the major public health challenges confronting Australia, a strategic approach to SES and health research is needed. It is not merely a question of creating a critical mass of Australian research that will make an even greater contribution to an already extensive international evidence base. Rather, a strategic approach will underpin and build the capacity required to develop effective policy initiatives, education campaigns, health promotion programs and other approaches that will make a difference to the health of Australians who live in disadvantaged communities and belong to disadvantaged groups. Developing solutions and strategies that can make a measurable difference to the health of disadvantaged Australians will require a research agenda that involves the most active participation of our communities, and incorporates the best and latest knowledge of those communities and how their health is impacted on by social and economic factors.

There are a number of specific and challenging research gaps that need to be addressed over the next period, including:

- moving from merely describing the problem to being able to understand and explain the problem, and then to develop strategies for change;
- developing and using multi-level research designs and methodologies that allow us to focus on all the factors that impact on people's everyday lives;
- acknowledging the complexity, diversity, and mutability of the relationship between SES and health;
- explaining increasing health inequalities; and
- adopting a life-course perspective and investigating the genesis of socioeconomic health inequalities.

Although much work remains to be done in this very challenging area of research, we now have in place the beginnings of an evidence base that can inform a better approach to tackling inequalities in health. Whilst these approaches can (and should) take many varied forms, we argue that the extent of their effectiveness will depend at least in part on the adoption of strategies that are underpinned by social ecological principles, that are targeted and inter-sectoral, involving community participation, and that simultaneously focus on multiple entry points.

In 1998, a national Health Inequalities Research Collaboration was established, the major aim of which has been to improve and promote understanding of how social, economic and environmental factors influence health inequalities in Australia. The Collaboration will be judged on its ability to increase the quantity and quality of research on SES and health, as well as the relevance of the research for policy, practice and interventions. In recent years, a number of Australian reports have been released that have reflected on the success and failure of a range of strategies for improving the health and well being of all Australians. There are many common lessons and themes identified in these reports which have particular relevance for the Collaboration. For example, the coordinated and organised research efforts with respect to cancer control and road safety in this country are very impressive by international standards. These efforts have demonstrated the effectiveness of well-developed linkage systems between investigators, policy makers, funders and implementers. Such linkages not only ensure that appropriate and achievable goals and targets are set, but that evidence-based practice is developed, identified and disseminated, and that progress is then tracked and monitored. Importantly, it will only be possible to achieve such a coordinated research effort in the SES and health area with the highest level of political and bureaucratic leadership that prioritises this as one of our most significant public health challenges into the next millennium. Without this sort of leadership and commitment, it will not be possible to fund, develop and sustain the critical mass of R&D activity that will be required to really make a difference to socioeconomic health inequalities in this nation over the next generation.

1 Introduction

1.1 Background

Since the release of *The Black Report*[1] in 1980, there has been increased international interest in socioeconomic health inequalities. During the last two decades we have witnessed a proliferation of publications focusing on this issue and by 1996 more than 200 articles per month were appearing in health-related journals, with terms such as 'socioeconomic status', 'social class', 'income' or 'poverty' listed as descriptors.[2] The evidence from much of this research has been summarised in reviews,[3,4,5] books,[6,7,8] and reports.[9,10,11,12] There are also other markers of increased international interest, for example, a number of countries have recently established nationally coordinated research programs that focus specifically on socioeconomic status (SES) and health.[13] There also seems to be a growing recognition of the importance of socioeconomic health inequalities by some national governments,[14] which is reflected in their health and public policies.[11] Further, the World Health Organisation has continually advocated a reduction of health differences between socioeconomic groups, and their ongoing commitment to this issue was recently demonstrated in the publication *Solid Facts*.[15] Finally, in the last few years, topics relating to socioeconomic health inequalities have formed the focus of a number of national and international conferences.

Within the Australian context there is also clear evidence of a sustained and growing interest in socioeconomic health inequalities. Since the late 1960s a large number of empirical studies and discussion papers, books and book chapters, and reports and monographs have been published on this topic. Some of the more recent and important reports and monographs include the National Health Strategy's *Enough to Make you Sick: How Income and Environment Affect Health*[16] and Mathers' four volume series that detailed health differentials among Australian children, young adults, working aged adults, and older persons.[17,18,19,20] Moreover, the need to address and ultimately reduce socioeconomic health inequalities in this country has been advocated in a number of key national reports, including:

- Better Health Commission (1987) *Looking Forward To Better Health;*
- the Health Targets and Implementation (Health for All) Committee (1993) *Health for All Australians;* and
- Commonwealth Department of Human Services and Health (1994) *Better Health Outcomes for Australians: National Goals, Targets and Strategies for Better Health Outcomes into the Next Century.*

In many respects, the findings arising from this present report are consistent with the international and Australian momentum on socioeconomic health inequalities. The report was commissioned by the Population Health Division of the Commonwealth Department of Health and Aged Care. Its purpose was to identify the evidence base that could (i) inform the establishment of a long-term, nationally coordinated health inequalities research program, and (ii) contribute to the development of policies and interventions aimed at reducing these inequalities.

1.2 Objectives of the report

This report has four primary objectives:

1. To review the Australian research pertaining to socioeconomic health inequalities;
2. To provide a brief descriptive profile of Australia's research capacity vis-à-vis socioeconomic health inequalities;
3. To critically examine the policies and interventions that have been suggested to reduce socioeconomic health inequalities; and
4. To make a number of preliminary recommendations about the development of a national health inequalities research program and a policy and intervention agenda.

1.3 Proposed conceptual framework

This report utilises a conceptual framework that identifies the main determinants of socioeconomic health inequalities (Figure 1.1). The structure and content of the framework, and the identified relationships between each of its major components, are based largely on the scientific evidence. Its conceptualisation has also been informed by a broader understanding of the determinants of health. The framework consists of three discrete yet closely interrelated stages or levels; these being the, *upstream, midstream and downstream* levels.

Upstream level factors: The framework identifies social, physical, economic and environmental factors as being the most *fundamental* determinants of health.[9,21,22] These include a range of interrelated factors such as education, employment, occupation and working conditions, income, housing, and area of residence. The framework also indicates that these fundamental determinants are themselves influenced by even more upstream factors, namely, government policies and factors associated with globalisation.

Midstream level factors: The social, physical, economic and environmental contexts that we occupy throughout the life-course are seen in the framework to influence health either indirectly via psychosocial processes and health behaviours,[23,24] or more directly, via such things as accidents, injuries, and violence. The health care system also plays some part in determining the extent of socioeconomic health inequalities within a society. Most key researchers and commentators, however, argue that it plays only a modest and moderating role.[6,25,26,27] Put simply, the higher mortality and morbidity rates experienced by socioeconomically disadvantaged groups are not in any fundamental way a consequence of the presence, absence, or quality of the health care system and its associated services.

Downstream level factors: Ultimately, illness and disease are a consequence of adverse biological reactions that occur as a result of changes or disruptions to the functioning of various physiological systems. Some of these reactions and systems are identified in the framework. There is now a growing body of evidence from overseas research which suggests that the poorer health profile of disadvantaged social groups is due in part to more sustained and/or longer-term adverse changes to physiological and biological functioning which are brought about by poorer psychosocial health and more harmful health-related behaviours. [28,29]

In this framework, the term 'culture' is used in an ideational sense to refer to a highly developed and shared system of meanings, codes, symbols, beliefs, values, norms and attitudes that shape and circumscribe our decision making processes, and, ultimately, our actions and behaviour. Culture is represented as having an influence at both the upstream and midstream levels. For example, government policy is framed and developed within particular cultural contexts. Moreover, as individuals, we inhabit different cultural contexts in the course of our everyday lives, including the

work-place, family and school, and these influence (both positively and negatively) our psychosocial well being, our health-related behaviours, and eventually our health.

The framework serves four important functions for this report:

1. To provide an overview of the complex inter-relationships between SES and health;
2. To inform the review of the Australian literature, and, as a basis for identifying knowledge gaps and for suggesting directions for future research;
3. To identify possible 'entry points' for policies and intervention strategies; and
4. To provide a conceptual framework that might be useful for informing the development of a long-term, nationally coordinated research program as well as a policy and intervention agenda.

Some of the limitations of the framework are summarised in Appendix A.

1.4 Structure of the report

Chapter 2 provides a review of Australian research on socioeconomic health inequalities. Chapter 3 briefly outlines some of the more important dimensions of Australia's research capacity and infrastructure vis-à-vis SES and health. Chapter 4 reviews some of the international literature and evidence relating to proposed policies and interventions to reduce socioeconomic health differentials. Chapter 5 explores a number of issues that are relevant in terms of the development of a national research program and a policy and intervention agenda.

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2 A review of Australian research

2.1 Introduction

This chapter presents a review of Australian research pertaining to socioeconomic status (SES) and health. The review is divided into two sections. The first provides a detailed profile of the major characteristics of the Australian research effort. The second section presents a systematic review of the findings of empirical studies that have been published in scientific journals.

2.2 Methods

2.2.1 Delimiting the review

In keeping with the terms of reference and objectives of this report, it was necessary to delimit the literature review in the following ways:

1. The review focuses on socioeconomic status as traditionally conceptualised and measured by the research community. A number of national[1] and international[2,3,4] reviews have examined the measures of SES used in health inequalities research. These show that SES is measured at both the individual and ecological levels. The former includes (but is not limited to) income, occupation and education, each variously measured, as well as composite indices that contain some or all of these measures. The latter includes (but is not limited to) measures based on the characteristics of areas, such as the percentage of unemployed living in a suburb, the percentage of families on low incomes, the percentage of families without a car and so on.
2. Specific research pertaining to population subgroups such as the unemployed, the disabled, the homeless, and ethnic groups are not included in this review for both substantive and practical reasons. The poorer health of these (and other) subgroups is considered to be due significantly to the more fundamental socioeconomic inequalities that they experience. Also, given the time and resource constraints of this project it was not possible to undertake a comprehensive review of the health of all of these population subgroups.
3. Whilst it is acknowledged that the poorer health profile of Aboriginal and Torres Strait Islander peoples is in part due to socioeconomic factors, we do not review evidence relating specifically to indigenous Australians.
4. The primary aim of this review was not simply to document Australian research that had examined the association between SES and health. Rather, the purpose was to collate, review, and present the literature in such a way that it furthered our understanding of why SES is so strongly and consistently related to health. This could only be achieved if we focused on studies that examined the factors that mediated the association between SES and health (e.g. psychosocial factors, health behaviours), as well as studies that examined the direct relationship between these variables.
5. We selected studies that explicitly examined some aspect of the relationship between SES and the outcome of interest, although the extent to which SES formed the focus of the study was highly variable. In some instances, SES was the primary concern of the paper (usually reflected by the use of the term in the title); in others it was treated as one of a number of variables believed to explain a disease or other outcome. We did not select papers where SES was merely treated as a covariate to adjust for its potentially confounding influence, as typically such studies are not very informative about how SES relates to health.

6. The search for relevant literature was not limited to any particular time frame. As far as possible, all identified material up until 1998 – published, unpublished and in-press – was included.

2.2.2 Search strategies

The following search strategies were used to identify suitable publications for this review:

1. A search of computerised databases including Medline, Sociofile, Psyclit, Cinahl, Human Nutrition database (1991-97), and the Social Sciences Citation Index. When searching these databases the following types of descriptors were used (in various combinations): socioeconomic status; SES; class; social class; income; education; occupation; poverty; disadvantage; inequality; health inequality; health; mortality; morbidity; disease; disorder; psychosocial; pregnancy; dental; abuse; accidents; alcohol; smoking; exercise; suicide; mental health; cancer; heart disease; sexual health; stress; Australia.
2. Searches using the names of Australian researchers known to be working in the health inequalities area, and those journals that regularly publish articles on this topic.
3. A detailed search of the bibliography and reference sections of the existing Australian literature (published and unpublished) and selected international journals (e.g. *Social Science and Medicine, Journal of Epidemiology and Community Health, British Medical Journal*).
4. A survey of members of the national health inequalities email network (a copy of the survey and its associated protocol is contained in Appendix B).
5. Visual inspections of the abstracts and contents of papers published in major Australian health journals.

2.2.3 Focus of the review

Using the various listed search strategies, we identified 259 publications that dealt with issues relating to the association between SES and health.** These publications were subsequently grouped into four discrete categories: published empirical studies in journals; published reviews and discussion papers; reports and monographs (published and unpublished); and books and book chapters (Table 2.1). In this review we focus on the 202 published empirical studies in journals (Category 1) and do not examine material from the other three categories for the following reasons:

- Many of the publications contained in Categories 2-4 are themselves reviews or summaries of the evidence to that point. Where appropriate, however, this material is considered in later chapters of the report.
- Many publications in Category 2 contain discussion of substantive issues (such as the measurement of SES or reasons for health inequalities) that, while important, are not directly relevant to this report.
- Many of the reports and monographs contained in Category 3 present a large amount of detailed evidence relating to SES and health, which given the limits of this project, cannot be easily nor succinctly summarised (e.g. the four volume series on health differentials by Mathers).

**We acknowledge that this review is not exhaustive and that there are likely to be other Australian publications that we did not identify.

Table 2.1: Australian publications relating to SES, health, and their determinants [1]

	Reference-type	Number	Per cent
1	Published empirical studies in journals	202	78.0
2	Published reviews and discussion papers in journals	19	7.3
3	Reports and monographs (published and unpublished)	26	10.0
4	Books and book chapters	12	4.6
		259	100.0

1. Reference lists relating to the publications in categories 2-4 are presented in Appendices C-E respectively

2.2.4 The review database

As part of our review of the 202 published empirical studies we developed an analytic database using Microsoft Access. A copy of the database structure is presented in Appendix F. The fields contained in the database reflect the main dimensions of any empirical study and include:

- Bibliographic details
- Research Design
- Data source and collection methodology
- Population studied
- Sample characteristics
- Region or area where the data were collected
- Measures used
- Main outcome variables
- Findings
- Other information of relevance in terms of interpreting the study (e.g. its limitations, important conclusions etc)

The database structure contains a large number of diverse fields that can be manipulated, cross-classified and examined in many ways, thus allowing us to undertake both very general reviews of the Australian literature, or very specific and detailed reviews.

2.3 Findings

2.3.1 Characterising the Australian research effort

Journals used by researchers

The first known Australian empirical studies to have examined the relationship between SES and health were published in 1971. Since that time, 202 studies have appeared in a wide range of national and international journals (Table 2.2). The majority have been published in the *Australian and New Zealand Journal of Public Health* (n=45, 22.3%) followed *by The Medical Journal of Australia* (n=36, 17.8%) and *Social Science and Medicine* (n=16, 7.9%).

Table 2.2: Journal sources for the 202 empirical studies, including the number and proportion of articles published in each journal

Journal title	No.	%
Australian and New Zealand Journal of Public Health [1]	45	22.3
Medical Journal of Australia	36	17.8
Social Science and Medicine	16	7.9
Australian Journal of Nutrition and Dietetics	9	4.5
Journal of Epidemiology and Community Health	9	4.5
Australian Paediatric Journal	8	4.0
International Journal of Epidemiology	6	3.0
Food Australia [2]	5	2.5
Journal of Paediatrics and Child Health	5	2.5
Australian and New Zealand Journal of Psychiatry	4	2.0
Australian Dental Journal	4	2.0
Journal of Biosocial Science	3	1.5
Nutrition Research	3	1.5
Australian Family Physician	3	1.5
Australian Journal of Social Issues	3	1.5
American Journal of Epidemiology	2	1.0
Archives of Disease in Childhood	2	1.0
Australian and New Zealand Journal of Obstetrics and Gynaecology	2	1.0
British Journal of Ophthalmology	2	1.0
Journal of Food and Nutrition [3]	2	1.0
Preventive Medicine	2	1.0
Others [4]	31	15.3

1. Includes Community Health Studies and Australian Journal of Public Health
2. Includes Food Technology Australia
3. Includes Food and Nutrition Notes and Reviews
4. One article for each journal in this category

Trends in publication rates

Figure 2.1 and Table 2.3 chart the growth of Australian empirical studies that have focused on some aspect of the relationship between SES and health. During the period 1971-88 there was a gradual (albeit small) upward trend in the number of published studies, despite minor variation for some of the interim years (see Figure 2.1). This period accounted for 43.6% (n=78) of all published work (see Table 2.3). After 1988 however, the number of studies increased sharply. Between 1989 and 1996, 124 Australian papers were published, which represented 56.4% of the total (n=179). During the ‘peak’ period (1995-96), 32 empirical studies were published.

Figure 2.1: Number of published empirical studies in journals, by year of publication (based on 179 studies published between 1971 and 1996)

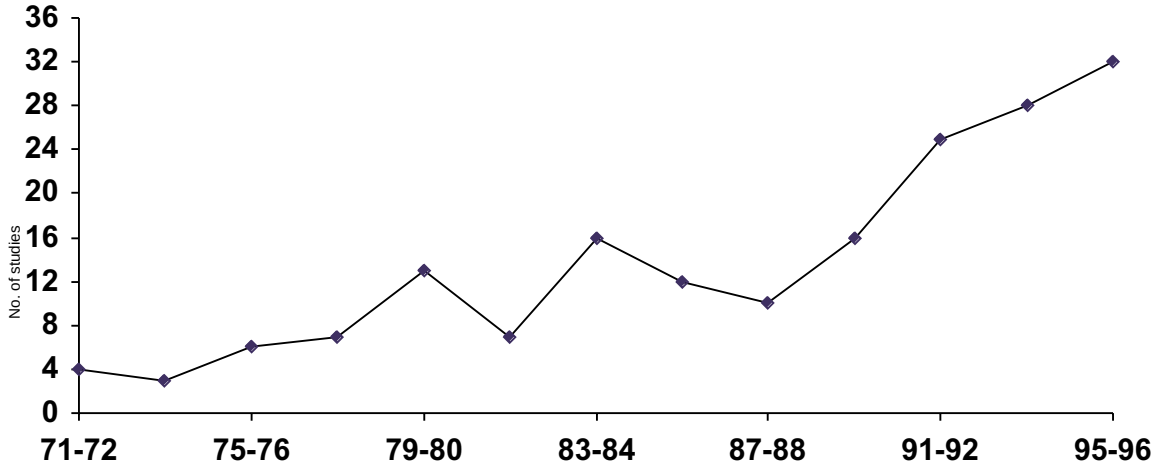

Table 2.3: A profile of the growth of Australian empirical studies that have focused on the relationship between SES and health (1971-96) [1]

Years	Number of studies	Percentage	Cumulative frequency	Cumulative percentage
1971-72	4	2.2	4	2.2
1973-74	3	1.7	7	3.9
1975-76	6	3.4	13	7.3
1977-78	7	3.9	20	11.2
1979-80	13	7.3	33	18.5
1981-82	7	3.9	40	22.4
1983-84	16	8.9	56	31.3
1985-86	12	6.7	68	38.0
1987-88	10	5.6	78	43.6
1989-90	16	8.9	94	52.5
1991-92	25	14.0	119	66.5
1993-94	28	15.6	147	82.1
1995-96	32	17.9	179	100.0
Total	179	100.0	179	

1. Studies for the period 1997-98 (n=23) were excluded from this table and Figure 2.1, as many papers due for publication in 1998 had not appeared in press at the time when this review was completed

The 202 studies focused on a range of different populations, including infants (less than 1 year), children (1-14 years approximately), adolescents (12-18 years approximately), working-aged adults (15-64 years approximately) and the elderly (65 years or older approximately). These 'life-course' groupings were derived prior to undertaking the review. As the review progressed, it became apparent that the results of a number of studies were difficult to classify according to these categories, because there is little consistency in terms of how researchers defined these different age groups. For example, 15 year-old respondents were sometimes included in studies that focused on adolescents, and in others they were included as working-aged adults.

Table 2.4 presents a profile of the studies in terms of the population groups that were covered. The greatest number of studies focused on working-aged adults (n=97, 48%), followed by children (n=45, 22%) and infants (n=27, 13%).

Table 2.4: Australian research articles relating to SES and health: populations studied [1]

Population studied	Number of studies	% of total (n=202)
Infants	27	13
Children	45	22
Adolescents	13	6
Working-aged adults	97	48
Elderly	12	6
Not stated/not able to be classified	5	2

1. A number of studies examined the relationship between SES and health on the basis of more than one population group, hence, the frequencies will not sum to 202 and the proportions will not sum to 100%.

Health-related outcomes studied

Table 2.5 presents data on the types of health-related outcomes that were examined (many studies examined more than one). The most frequently investigated outcome was health behaviour, with 37% (n=74) of studies examining this issue. The next most frequently studied outcomes were physical morbidity (29%, n=58), mortality (20%, n=40), health services (17%, n=34), attitudes, knowledge and beliefs (13%, n=27), mental/psychosocial morbidity (11%, n=22) and risk factors (10%, n=20).

Three studies (1%) examined the relationship between SES and participation in health-related research. These dealt with issues such as the recruitment of persons from low SES backgrounds, response rates, attrition rates, and bias associated with non-representative samples.

Table 2.5: Australian research articles relating to SES and health: outcomes studied [1]

Outcome studied[2]	Number of studies	% of total (n=202)
Mortality	40	20
Physical morbidity	58	29
Mental/psychosocial morbidity	22	11
Health behaviours	74	37
Risk factors	20	10
Health services	34	17
Attitudes, knowledge and beliefs	27	13
Study participation	3	1

1. Many studies examined the relationship between SES and health on the basis of more than one outcome; hence, the frequencies will not sum to 202 and the proportions will not sum to 100%

2. For a detailed listing of the factors included under each of these broad classifications refer to the data structure in Appendix F

Measures of SES used

Table 2.6 identifies the main measures of SES used by Australian researchers to date. Whilst collating this material the following points were observed:

- many studies used more than one measure of SES;
- there was little consistency in terms of how the measures were operationalised, making it difficult to compare directly between studies in terms of their findings;
- some studies used a single indicator (such as occupation) operationalised in a couple of ways; and
- few studies provided an explicit justification for their choice of any particular measure.

Table 2.6: Australian research articles relating to SES and health: measures of SES used [1]

SES measure	Number of studies	% of Total (n=202)
Area-level [2]	75	37
Individual-level:		
Occupation	96	48
Education	72	36
Income	29	14
Employment status	9	4
Welfare received	9	4
Poverty	7	3
Other individual measures [3]	17	8

1. A number of studies examined the relationship between SES and health on the basis of more than one measure; hence, the frequencies will not sum to 202 and the proportions will not sum to 100%
2. Includes SEIFA, other (undefined) area-based indexes, and indicators of SES based usually on Census data (e.g. percent of low income families, percent of population in professional occupations)
3. Includes (but is not limited to) housing tenure, parental SES, financial problems, car ownership, social class

Of the 202 studies, 37% (n=75) used an area-based measure. Occupation was the most extensively used individual-level measure (48%, n=96). The main measures of occupation used to date include:

- the Australian Bureau of Statistics' Classification and Classified List of Occupations (CCLO) and more recently, the Australian Standard Classification of Occupations (ASCO); and
- Congalton and Daniel's occupational prestige scales (usually treated as ordinal indicators).

Education was used in 36% (n=72) of studies, and income in 14% (n=29). Other measures less frequently used included employment status, receipt of welfare, poverty, housing tenure, financial difficulties, and car ownership.

Population studied by health-related outcome

Table 2.7 cross-classifies the 202 articles by population studied and health-related outcome. This information provides us with an indication of where Australian researchers have focused most of their attention.

Among infants, the predominant focus has been on mortality and physical morbidity, although some research has investigated issues relating to health behaviours and health services.

Studies that examined children focused mainly on physical morbidity and to a lesser extent health behaviours. Only three studies were identified that examined the relationship between SES and attitudes, knowledge and beliefs for children.

Studies focusing on the issue of SES and health among adolescents have examined morbidity, risk factors, health behaviours and health services in roughly equal numbers. Interestingly, no study was identified that examined SES and mortality among adolescents.

Studies that examined the relationship between SES and health on the basis of working aged adults have focused extensively on health behaviours, and to a lesser extent on mortality, physical morbidity, health services, and attitudes, knowledge and beliefs.

Among the few studies that have focused on the elderly, there is no discernible pattern evident with respect to the outcome examined. Five studies addressed mortality and four studies addressed issues relating to health service use. Physical morbidity and health behaviours were each addressed by two studies. No studies were identified that examined the relationship between SES and risk factors or attitudes, knowledge and beliefs among elderly persons.

Table 2.7 Australian research articles relating to SES and health: populations studied by health outcome (number of studies)[1]

	Population studied				
Health-related outcome	**Infants**	**Children**	**Adolescents**	**Working aged adults**	**Elderly**
Mortality	12	5	0	26	5
Physical morbidity	12	25	4	21	2
Mental and psychosocial morbidity	1	8	4	13	1
Risk factors	0	5	3	12	0
Health behaviours	4	15	6	51	2
Health services	5	7	4	23	4
Attitudes, knowledge and beliefs	0	3	2	23	0

1. Many studies focused on more than one health-related outcome per population group. Similarly, many studies focused on more than one population group for each health-related outcome

SES measure used by health-related outcome

Table 2.8 cross-classifies the 202 articles by SES measure and health outcome. The area-based measures were used mainly to examine mortality and physical morbidity and to a lesser extent health behaviour. Individual-level occupation-based measures were used extensively to examine health behaviours, physical morbidity and mortality and to a lesser extent health services. The most notable feature of Table 2.8 is the near absence of studies that have examined the relationship between SES and mortality on the basis of education and income measured at the individual level. This pattern undoubtedly reflects the fact that education and income data are not collected on death certificates. Education measured at the individual level has been used to examine socioeconomic differences in health behaviour (n=31), health services (n=21), physical morbidity (n=16), and attitudes, knowledge and beliefs (n=14). Income-based measures have been used mainly to examine health behaviours, health services, and physical morbidity.

Table 2.8 SES measure used by health-related outcome (number of studies)[1]

Health-related outcome	SES measure			
	Area level	Individual-level		
		Occupation	Education	Income
Mortality	23	23	1	1
Physical morbidity	22	27	16	8
Mental/psychosocial morbidity	4	10	8	3
Risk factors	9	8	6	2
Health behaviours	17	36	31	13
Health services	10	14	21	12
Attitudes, knowledge and beliefs	5	11	14	5

1. Many studies used more than one measure of SES. Similarly, many studies focused on more than one health-related outcome.

Geographic regions covered

Table 2.9 presents a broad descriptive profile of the geographic regions that were covered by the 202 articles. Thirty-seven articles were identified that examined the relationship between SES and health on the basis of samples that were drawn from across Australia. In terms of specific States, the majority of articles (n=45, 22.3%) focused on New South Wales and its regions (mainly Sydney and its surrounds as well as Newcastle and the Hunter region). Tasmania received the least coverage (n=5, 2.5%).

Table 2.9 A descriptive profile of the geographic regions covered by the 202 studies [1]

Region		Number of studies	Per cent
Australia		37	18.3
Queensland	State as a whole	6	
	Intra-State regions	16	
	Total	22	10.9
New South Wales	State as a whole	6	
	Intra-State regions	39	
	Total	45	22.3
Victoria	State as a whole	6	
	Intra-State regions	29	
	Total	35	17.3
Tasmania	State as a whole	3	
	Intra-State regions	2	
	Total	5	2.5
South Australia	State as a whole	7	
	Intra-State regions	20	
	Total	27	13.4
Western Australia	State as a whole	5	
	Intra-State regions	13	
	Total	18	8.9
Inter-State areas combined		13	6.4
Total		202	100.0

1. A more detailed version of this table is presented in Appendix G.

2.3.2 Review of published empirical evidence relating to SES and health

Introduction

This section presents a systematic review of the findings of the 202 studies that focused on SES and health. We begin by examining the evidence as it relates to infants and move progressively to focus on children, adolescents, working-aged adults, and the elderly. In the context of this review 'health' is conceptualised in its broadest sense to include both outcomes as traditionally measured, such as mortality and morbidity, and the more 'upstream' determinants of the outcomes, such as health behaviours, psychosocial factors and risk factors. We believe that by compiling and reviewing the Australian evidence in terms of both types of outcomes, the foundations have been laid for a greater understanding of how socioeconomic groups differ in their health profiles. This method of reviewing the evidence also allows us to relate the material directly to the conceptual framework that was presented earlier (see Figure 1.1).

In most cases, only the statistically significant findings are reported. We explicitly acknowledge the limitations associated with this approach. In particular, it gives the impression that all studies were consistent in terms of finding an association between SES and the outcome of interest. Clearly, this is not the case. As when reviewing any body of research, particularly in the epidemiological, social and behavioural sciences, there are inconsistencies and contradictions in the evidence. This results from the use of different research designs and measurement, sampling procedures and sample sizes, and data collection methods. Despite this, we are confident on the basis of this review that the Australian evidence relating to SES and health is more consistent than inconsistent. The SES indicators, health outcome measures and findings of the 202 studies are presented in Appendix H.

As part of this review no detailed assessment is made of the quality and rigour of each of the studies in terms of research design, sample, representativeness, statistical analysis and so on. A critique of all aspects of the studies is desirable for a range of reasons. For example, we would be in a better position to assess the likely reliability and validity of the results. In addition, it would help us to understand more fully some of the inconsistencies in the evidence. Evaluating the quality and rigour of each of the studies, however, was beyond the scope of this project, thus we reproduce the findings as reported in the articles.

Although statistically significant findings are mainly presented, we need to caution against simply extrapolating these findings to socioeconomic groups more generally. Many of the results are based on single studies that measure SES in very particular and sometimes idiosyncratic ways. We have least confidence in the reliability and generalisability of findings that have only been reported once, and greatest confidence in findings that are consistently demonstrated across studies. Indeed, 'one-off' findings (whether significant or not) are evidence of the need for further research on the particular issue.

Finally, the following convention has been used when reporting findings relating to males and females:

- Studies that focused only on one gender are reported with that gender identified immediately **before** the finding;
- Studies that included both males and females, but found a significant result for only one gender, are reported with that gender identified immediately **after** the finding;
- Where no gender is identified, the finding pertains to both males and females.

A review of the evidence relating to infants*

Mortality

Twelve studies were identified that examined the relationship between SES and infant mortality (including perinatal, neonatal, and post neonatal mortality, stillbirth and sudden infant death syndrome).

- among studies that used area-based measures of SES, no clear or consistent picture emerged. Some studies found that disproportionately higher rates of infant mortality were observed in areas variously characterised as 'low SES'.[5,6,7,8,9] Other studies, however, did not clearly corroborate these results,[10,11,12,13] although the trends were often in the expected direction (i.e. higher rates in low SES areas).
- studies based on individual-level measures produce a similarly inconsistent picture. Two studies reported that rates of infant mortality were higher for children from low SES backgrounds[14,15] whereas a third study found no association between SES and infant mortality.[16]

*See Appendix H for more details.

Physical morbidity

Twelve studies were identified that examined the relationship between SES and various types of morbidity among infants. Infants from low SES backgrounds were more likely to experience:

- higher rates of low birthweight[6,10,16,17,18,19]
- developmental delays[20]
- prolonged duration of acute illness[21]
- diarrhoea and/or vomiting[22]
- increased propensity to need resuscitation after birth[6]
- higher rates of pre-term delivery[10, 16]
- lower birthweight for gestational age[16]
- Level 2 nursery care[10]
- hospital stays of 28 days or more after birth[10]
- higher placental weight/birthweight ratio[23]
- heavier weight at 9 and 12 months, possibly due to higher rates of artificial feeding rather than breast feeding[24]

Mental and psychosocial morbidity

One study was identified that examined the relationship between SES and mental/psychosocial health among infants.[20] It found that 'behavioural disturbance' associated with feeding, crying, and sleeping was not significantly related to poverty status or the mother's or father's education level.

Risk factors

No studies were identified that examined the relationship between SES and risk factors among infants.

Health behaviours

Four studies examined the relationship between SES and health behaviours among infants. Infants from low SES backgrounds were:

- less likely to be breastfed and more likely to experience a shorter duration of breastfeeding[25,26,27,28]
- more likely to be fed solids early in life and more likely to be fed canned food[25]

Health services

Five studies were identified that examined the relationship between SES and health service use among infants. Infants from low SES backgrounds:

- experienced more hospital admissions[11,21,29]
- were more likely to visit doctors, paediatricians and hospital casualty departments rather than other health professionals such as nurses, suggesting that these infants experienced more serious morbid episodes[30]
- were less consistent attenders for antenatal visits[16]
- had fewer attendances at maternal and child health centres[29]

Attitudes, knowledge and beliefs

No studies were found that examined the relationship between SES and health-related attitudes, knowledge and beliefs with respect to infant health.

A review of the evidence relating to children[†]

Mortality

Five studies were identified that examined the relationship between SES and mortality among children. These studies showed that children from low SES backgrounds experienced:

- a lower 5 year survival rate for acute lymphoblastic leukaemia and a lower survival time[31]
- higher rates of drowning incidents involving bathtubs[32]
- higher mortality due to non-accidental injury and neglect[33,34]

Children from higher SES backgrounds were more likely to experience a drowning incident, and a drowning incident involving swimming pools.[32]

Physical morbidity

Twenty-five studies examined the relationship between SES and various types of morbidity among children. These studies showed that children from low SES backgrounds experienced:

- more chronic health problems[35]
- poorer dental health[35,36,37,38,39]
- poorer general health[35]
- higher than average number of illness symptoms[40]
- a higher rate of near-drowning incidents involving bathtubs [32]
- more bronchitis in the 12 months prior to interview (boys only)[41]
- higher rates of pedestrian injury[42,43]
- higher rates of physical abuse[34,44]
- excessive colds[45]
- higher rates of developmental delay[39,46]
- higher rates of bicycle injury requiring hospital admission[47]
- higher injury rates for a range of causes[48]
- higher rates of neglect[34]

In addition, children from low SES backgrounds were more likely to:

- be shorter[38]
- be identified as having bacterial pathogens and intestinal parasites[49]
- have higher blood lead concentrations[50]
- score lower on memory and motor scales and scales of cognitive ability[50]
- have a language or speech defect[39,51]
- experience non-accidental head injury[52]

Children from higher SES backgrounds:

- experienced an overall higher rate of near-drowning incidents and a higher proportion of near-drowning incidents involving swimming pools[32]
- experienced more asthma in the 12 months prior to interview[41]
- were more likely to experience acute lymphoblastic leukaemia[53]

[†]See Appendix H for details

Mental and psychosocial morbidity

Eight studies were identified that examined the relationship between SES and mental and psychosocial morbidity among children. These studies show that children from low SES backgrounds:

- were more likely to experience behaviour disturbances[39,54] and social problems[39]
- had lower mean mental development index scores[50,55]
- were more likely to throw tantrums, be solitary or withdrawn, aggressive, disruptive, attention seeking or distressed, and have poor concentration spans[51]
- were less likely to be classified with Class 1 autism (early onset of core symptoms)[56]
- were more likely to be identified as 'cases' based on the mother's completion of the Child Behaviour Checklist[57]

Children from higher SES backgrounds were more likely to be diagnosed as autistic.[56]

Risk factors

Five studies examined the relationship between SES and risk factors among children. Children from low SES backgrounds had:

- higher skin-fold thickness[58]
- higher body mass index[58,59,60]
- higher diastolic blood pressure[58]
- lower HDL cholesterol[59,60,61]
- higher mean triglyceride levels[59,60]
- a greater risk of pedestrian injury[42]

In addition, children from low SES backgrounds were more likely to live in areas where vehicles were observed exceeding the speed limit.[42]

Health behaviours

Fifteen studies examined the relationship between SES and health behaviours among children. These studies showed that children from low SES backgrounds:

- were less likely to belong to a sporting club[62]
- were more likely to smoke[63] although two studies found no association[64,69]
- had poorer dental habits and behaviours[35,36,37]

In terms of diet, children from low SES backgrounds had:

- higher sodium intake[65], percentage of energy from fat,[65] and total daily energy intake[60]
- lower intakes of potassium and magnesium (boys only)[65]
- lower percentage of total energy derived from sugars (girls only)[65]
- lower iron levels (boys only)[38]
- lower Vitamin C levels (boys only) [38]
- lower proportion of energy from protein, carbohydrate and polyunsaturated fat[60]
- lower polyunsaturated: saturated fat ratio[60]
- lower fibre density[60]

- individual mean daily nutrient intakes that fell below the Australian dietary allowance[38]
- a higher 'Keys' score[60]

Four studies compared SES groups in terms of their immunisation status. The results to date are inconsistent. Some researchers report that low SES children are less likely to be immunised, or fully immunised[39,66] whereas others have found that children with parents from higher SES backgrounds are less likely to be fully immunised.[67,68]

Health services

Seven studies were identified that examined the relationship between SES and health services among children. Children from low SES backgrounds:

- had higher health service utilisation[35]
- had a higher rate of hospital separations[11]
- were less likely to have visited a dentist in the previous six months[36]

Attitudes, knowledge and beliefs

Three studies examined the relationship between SES and health-related attitudes, knowledge and beliefs among children. Children from low SES backgrounds:

- were more likely to be able to name at least one brand of cigarette[69]
- were more able to correctly identify cigarette advertisements from which the brand name had been removed[69]
- were less likely to agree that cigarette advertisements were designed to appeal more to adults than children[69]
- rated football as their preferred spectator sport and identified Winfield as the second most popular cigarette brand, whereas their higher status counterparts rated cricket as their preferred sport and listed Benson and Hedges as the third most popular brand of cigarette.[69]
- were more likely to accept favourable opinions of cigarette advertising[70] and altruistic motives of cigarette advertising[69]
- had less positive attitudes towards community and personal health issues[71]
- were more likely to select 'to have pleasure from smoking' as a possible reason for children taking up smoking[69]

A review of the evidence relating to adolescents[‡]

Mortality

No studies were identified that examined the relationship between SES and mortality among adolescents.

Physical morbidity

Four studies examined the relationship between SES and morbidity.[36,72,73,74] Only one of these, however, found a significant relationship: adolescents from low SES backgrounds were more likely to have poorer dental health.[36]

Mental and psychosocial morbidity

Four studies examined the relationship between SES and mental/psychosocial health among adolescents. Adolescents from low SES backgrounds:

[‡]See Appendix H for details

- displayed a stronger negative correlation between self-esteem and body mass index (girls only)[73]
- were more likely to be identified as 'cases' when classified in accordance with the Child Behaviour Checklist[57]
- had significantly higher rates of psychiatric morbidity (boys only)[75]

Risk factors

Three studies examined the relationship between SES and risk factors among adolescents. Adolescents from low SES backgrounds:

- had higher BMI and were more likely to be above-average weight (girls only)[73]
- were more likely to be classified as high CVD risk (girls only)[76]

Health behaviours

Six studies were identified that examined the relationship between SES and health behaviours among adolescents. The majority of these studies focused on food and nutrient intakes and dietary behaviours, and the significant findings indicate that adolescents from low SES backgrounds had lower (absolute) intakes of:

- vitamin A (girls only)[77] and vitamin C[77,78]
- thiamine[77]
- fibre from vegetables (boys only)[78] and fibre more generally (girls only)[78]
- sugar, thiamine, iron, and folate from fruit[78]
- calcium, magnesium, and potassium (girls only)[76]
- iron (girls only)[76]
- sugar, fat, calcium, thiamine, and folate from dairy products (girls only)[78]
- starch (girls only)[78]
- folate from cereals (girls only)[78]
- fibre from vegetables and fibre more generally[78]
- folate from fruit[78]
- calcium from dairy products and calcium more generally[78]
- iron from vegetables (boys only) and iron more generally[78]
- thiamine[78]
- fat from cereals (boys only)[78]
- folate from vegetables (girls only)[78]

Adolescents from low SES backgrounds:

- had higher intakes of energy[77,78] and fat (girls only)[76]
- were more likely to consume diet soft drinks, skip breakfast and dinner, and be less likely to take vitamin supplements (girls only)[73]

Adolescents from low SES backgrounds had higher:

- absolute energy intake from poultry/fish[76]
- sugar density from beverages[76]
- absolute energy intakes from the savoury snacks food group[76]

- intakes of energy and carbohydrates (boys only)[77]
- sweet consumption[36]

Adolescents from high SES backgrounds had higher absolute intakes of:

- energy from cereal products, dairy products and fruit[78]
- starch, iron, fibre, and folate from cereals[78]
- sugar, fat, calcium, thiamine, and folate from dairy products[78]
- sugar, thiamine, iron, and folate from fruit[78]

In terms of other health behaviours, adolescents from low SES backgrounds were less likely to:

- receive fluoride tablets daily or often[36]
- brush their teeth at least twice a day[36]
- use a toothpaste containing fluoride[36]

Health services

Four studies were identified that examined the relationship between SES and health services among adolescents. These studies found that adolescents from low SES backgrounds:

- were less likely to attend a dentist every six months[36]
- were more likely to make use of community health centres[57]
- were less likely to have received fixed orthodontic treatment[79]

Attitudes, knowledge and beliefs

Two studies examined the relationship between SES and attitudes, knowledge and beliefs among adolescents.[73,80] Only one of these, however, found a significant association: girls from low SES backgrounds had poorer knowledge of which foods should be reduced for weight control.[73] Low SES girls were also more likely to report feeling hungry very often.[73]

A review of the evidence relating to working aged adults§

Mortality

Twenty-six studies examined the relationship between SES and mortality among working-aged adults. These studies found that persons variously classified as 'low SES' experienced higher mortality rates for:

- (male) cardiovascular disease[81]
- (male) coronary heart disease[82]
- (male) suspected heart attack or coronary death[89]
- (male) stroke[82]
- (male) respiratory cancer[83]
- (male) total cancer mortality[84]
- (male) all-cause mortality[81,85,86,87,88]
- (male) ischaemic heart disease[89,90,91,92]
- (male) cirrhosis of the liver [81,86]

§See Appendix H for details

- (male) accidents other than traffic crashes[86]
- (male) stomach cancer[87,93]
- suicide[86,94,95]
- (male) lung cancer[81,86,87,93]
- (male) bronchitis, emphysema and asthma[87]
- (male) motor vehicle traffic accidents[86,87]
- (male) cancer of the mouth, pharynx and oesophagus[81,93]
- (male) alcoholism/alcohol psychosis[81]
- (male) bladder cancer[81,93]
- (male) pancreas cancer[93]
- (male) cancer of the kidney and liver[93]
- (male) cancer of the trachea and bronchus[93]
- (male) cancer of the larynx[81]

In addition, persons from low SES backgrounds:

- (males) had a 30% higher risk of a coronary event[82]
- (males) experienced a lower average annual decrease in coronary heart disease death rates over the period 1979-85[82]
- (males) experienced smaller declines in ischaemic heart disease mortality over the periods 1969-78[85] and 1969-73 – 1974-78[92]

Areas characterised as low SES had higher rates of mortality from:

- cancer[84,93,103]
- respiratory cancer[83,84]
- all-cause mortality[9,11,62,96,97,98,99]
- suicide[91,94,100,101,102]
- preventable death[99]
- ischaemic heart disease[91,103]
- stomach cancer[84,93]

Areas characterised as low SES also had lower life-expectancy rates[11] and a higher rate of potential years of life lost due to most causes of mortality.[99]

Areas characterised as high SES had higher rates of mortality due to:

- colo-rectal cancer[84,93,99]
- (female) breast cancer[84]
- respiratory cancer[84]

Persons variously classified as ‘high SES’ experienced higher rates of colon cancer mortality[87,93] and mortality from melanoma.[93]

Physical morbidity

Twenty-one studies were identified that examined the relationship between SES and physical

morbidity among working-aged adults. Adults variously defined as 'low' SES:

- were shorter in height[104]
- were heavier (females only)[104]
- were more likely to report experiencing recent illness,[105] a greater number of chronic conditions,[105,106] a greater number of days of reduced activity,[105] higher rates of 'serious' occupational injury[107] and worse physical health[108]
- had higher morbidity ratios for non-fatal myocardial infarction[89]
- were more likely to report their health as 'poor'[106]
- (males) were more likely to be diagnosed as having a positive herpes simplex virus type-2 antibody status[109]
- were more likely to be diagnosed with a positive helicobacter pylori infection status[110]

Persons living in areas characterised as 'low' SES:

- were more likely to experience complications associated with birth and pregnancy[6]
- were less likely to have melanomas that were in-situ, and, among those with invasive melanomas, were more likely to have 'thick' lesions[111]
- had higher incidence rates for most cancers including mouth, oesophagus, lung, stomach, pancreas, liver, kidney and bladder, lip/oral cavity/pharynx, trachea/bronchus/lung[93]

Mothers variously defined as 'low' SES:

- were more likely to experience induced labour[10]
- had less frequent elective caesareans[10]
- had higher mean antenatal blood lead concentrations[112]

Adults variously defined as 'high' SES:

- experienced a higher incidence of invasive malignant melanoma[113] and (female) breast cancer[114]
- (female) gynaecological disorders[115]

Areas characterised as 'high' SES:

- had a higher incidence rate for cancer of the colon[93]
- had a higher incidence of both melanoma[93] and invasive malignant melanoma[113]
- had a higher incidence rate for (female) breast cancer[114]

Mental and psychosocial morbidity

Thirteen studies were identified that examined the relationship between SES and mental/psychosocial health among working-aged adults. These studies found that adults defined as 'low' SES:

- had worse GHQ (mental health) scores[105,116]
- experienced higher psychiatric disturbance or impairment,[108,117] more loneliness[108] and higher social role impairment (female 'spouses' only)[108]
- had higher rates of Type A behaviour (employed women only)[85]
- had higher incidence rates for many stress-related conditions including nerves, insomnia, stress-headache and depression[118]
- had higher incidence rates for psychological problems[119] and minor psychiatric morbidity[116]

Mothers defined as 'low' SES:

- had higher levels of anxiety[19] and depression[19,120,121]

Adults defined as 'high' SES:

- had higher rates of Type A behaviour (males in administrative-type occupations)[85]
- had higher levels of minor psychiatric morbidity (female GP patients only)[116]

Risk factors

Twelve studies were identified that examined the relationship between SES and risk factors among working-aged adults. Adults defined as 'low' SES:

- were more likely to have high blood pressure[82,85,104,122,123]
- had lower HDL concentrations (females only)[104]
- had higher LDL concentrations (females only)[104]
- had lower mean plasma cholesterol[124]
- had higher ratio of total cholesterol to HDL concentration (females only)[104]
- had higher triglyceride levels[85,104]
- had higher BMI[85,104,122,123,124,125,126,127]
- were more likely to be overweight/obese[104,124,127,128,129]
- had a larger waist-to-hip ratio[126]
- were more likely to be classified as having two or more behavioural and biomedical risk factors[104]

Health behaviours

Fifty-one studies were identified that examined the relationship between SES and health behaviours among working-aged adults. These studies found that persons defined as 'low' SES:

- were less likely to be physically active or engaging in exercise[85,104,130,131,132] and were more likely to have reported that they had no intention to start exercise[132]
- were more likely to smoke [16,62,81,82,85,97,104,123,124,125,133,134,135,136,137,139,140,141]
- were less likely to smoke 'low tar' brands of cigarette[133]
- were more likely to purchase cigarettes in larger packet sizes[136,137,141]
- had a higher mean daily cigarette consumption[136,19,137,141]
- were less likely to have had the proper course of tetanus injections[40]
- had a smaller decline in smoking over the course of the 1980's (females only)[104]

In terms of diet, low SES groups:

- ate breakfast less regularly[16,19,142]
- were more likely to report adding salt to food[104]
- were more likely to consume alcohol at moderate/heavy levels (males only)[104,122]
- were less likely to use vitamin/mineral supplements[143]
- had lower densities of fibre,[142,144,145,146] beta-carotene,[143,147] thiamine,[143] vitamin C,[143,142] niacin,[143] folate,[143] iron[143] magnesium and/or potassium,[143,144] vitamin B12 (females only),[147] zinc,[143] and calcium[147]

- had higher densities of sodium[148], fat,[148,149,145] cholesterol,[148,144] nitrosamines (males only)[149] and retinol[143,147]
- had higher intakes of total energy,[146,148,149,144] simple and complex carbohydrate,[148] total, saturated, mono-unsaturated and polyunsaturated fat,[148,150,142] cholesterol,[148,146] protein[148] and sodium,[148] most micronutrients[148]
- had lower intakes of fibre,[149,144,142,125] vitamin C,[142] carbohydrates,[125] sugars,[125] and alcohol[125]
- had higher consumption of bread[151], white bread,[143,151,146] refined cereals[143,146] fried meat,[143,148,146] meat products (frankfurts, bacon, ham, luncheon meat, salami),[143,146] discretionary sugar,[143,146,151] full-fat milk and other dairy products,[143,142,146] potatoes,[143,146] take-away pies/pizza/sausage rolls,[143,149,146] flavoured milk[147] and eggs[143,146]
- had lower consumption of cereals[151,142] wholegrain bread, rice and pasta and cereals,[143,144,151,142,152] fruit,[142,143,149] low fat milk and other dairy products,[143,147,142] butter and cream,[147,151] meat dishes (stews, casseroles, meat and pasta dishes),[143] dried beans,[143] carrots/pumpkin,[143] salad vegetables,[143] fruit juice,[143] cheese,[143] alcoholic beverages,[143,146] leafy green/brassica vegetables,[143,149] vegetables generally,[142] and ice-cream (males only)[151]
- were least likely to purchase food that was consistent with dietary guideline recommendations[153,154,155,156]
- were least likely to engage in food preparation and cooking practices that were consistent with dietary guideline recommendations[155,157]
- were more likely to have a diet that was consistent with increased risk of cancer onset[149]
- were less likely to report reading food labels (females only)[158]
- were less likely to be attempting to reduce fat or salt, or to be increasing fibre[159]
- had a lower weekly average expenditure on food[154,160]; however spent a greater proportion of their weekly household income on food[154]
- were less likely to have tried to lose weight in the past[129]

Adults defined as 'high' SES

- had higher moderate/heavy alcohol consumption (females only)[104,85,149]
- had higher consumption of biscuits,[144] cottage cheese (females only),[147] bran (females only),[144] cheese (males only),[152] yoghurt (males only)[151] and butter rather than margarine (males only)[151]

Health services

Twenty-three studies were identified that examined the relationship between SES and health services among working-aged adults. These studies found that persons classified as 'low' SES:

- had a higher number of medical consultations[108,161,105,106]
- were less consistent attenders for antenatal visits[16,162]
- were less likely to have visited a dentist in the recent past[40,163] and used allied health services[161]
- (females) were less likely to have attended for a pap smear[164,165] and done breast self-examination[166]
- had a higher hospital morbidity rate[11]
- were more likely to receive shorter consultations when using GP services[167]
- were more likely to have received at least one recommendation for preventive care from a GP[168]
- were more likely to have had a hysterectomy[169]

- represented a higher proportion of 'high' users of mental health services[170]
- were more likely to be prescribed medication by a GP[171]
- were less likely to have had a diagnostic test ordered or undertaken when consulting a GP[171]
- represented a lower proportion of family planning clinics attenders[172]
- among recent dental service attenders, were more likely to have had a dental extraction[163]

Attitudes, knowledge and beliefs

Twenty-three studies were identified that examined the relationship between SES and attitudes, knowledge and beliefs among working-aged adults. Adults from low SES backgrounds:

- had a generally good dietary knowledge, although there were consistent knowledge gaps[124]
- had a lower recognition of margarine as a fat-containing food[124]
- generally believed that starchy foods (potatoes, rice, pasta) must be avoided to remain healthy[124]
- had a general lack of awareness of the Australian Dietary Guideline recommendations in relation to sugar and fats/oils[124]
- generally perceived their susceptibility to coronary heart disease as high[124]
- generally believed that their diet was not particularly healthy[124]
- less frequently perceived their diets as having too much 'carbohydrate/starch' and 'sugar/fat/salt' (females only)[176]
- less frequently perceived their diets as being low in 'vitamins/minerals'[176]
- more frequently perceived there to be 'no need to change' their dietary intake[176]
- were more likely to report a lower taste preference for foods consistent with dietary guideline recommendations[153]
- were least knowledgeable about food and nutrition[157,80]
- less frequently reported 'cutting down on what I eat' and 'increasing my exercise' as effective weight loss strategies[129]
- more frequently reported 'visiting my doctor', 'taking fibre tablets' and 'eating a high protein diet' as effective weight-loss strategies[129]
- were least interested in the sugar and salt content of foods when food shopping (females only)[158]
- were more interested in 'value for money' (males only)[158] and 'food quality' (females only)[158] when food shopping
- were more likely to report that they would change their diet 'if someone close was sick with a serious illness', 'after speaking to a family member or close friend' and in response to information from the media[159]
- were less likely to correctly identify appropriate cholesterol-reducing dietary actions[173]
- expressed a lower perceived importance of dietary guideline activities[176]
- were less likely to attribute illness to smoking[135]
- were more likely to perceive symptoms such as an unsightly rash as severe[40]
- were likely to believe that 'executive stress' was a high risk for coronary heart disease[174]
- were more prepared to change their behaviours for the health of a significant other than for themselves[174]

- were more prepared to make a behaviour change for health if the threat was great enough and immediate enough to compromise social participation[174]
- viewed health as a negative process of avoidance and escape[174]
- believed that behaviours consistent with health and longevity were in direct competition with one's quality of life[174]
- were less likely to value healthy lifestyle activities such as taking regular exercise[175]
- were more likely to perceive pollution and occupational exposures as more threatening to health, and more likely to perceive smoking and alcohol abuse as less threatening to health[145]
- were less aware that heart disease was the major cause of death in Australia[176]
- were less likely to: believe that there were things people could do to decrease cancer risk; nominate 'refraining from smoking' as a preventive cancer step; believe that diet influences cancer risk; and correctly identify foods associated with increased cancer risk[166]
- (females) were less likely to have heard of mammography[166]
- (females) were more likely to nominate 'television' as the source of information and knowledge about breast self-examination[166]
- were more likely to be uncertain about the percentage of deaths due to cancer (males only) and to be uncertain about their own personal risk for cancer (males only)[177]
- had lower levels of correct knowledge about eye diseases[178,179]
- had lower levels of awareness of pit and fissure sealants[180]

A review of the evidence relating to elderly persons**

Mortality

Five studies were identified that examined the relationship between SES and mortality among the elderly. Two studies examined suicide mortality and produced inconsistent and somewhat contradictory results. One found that rates of suicide among persons aged 65-74 were significantly higher in areas characterised as 'high' SES when income and occupation-based indicators were used.[94] However, the reverse was found with education, that is, areas with greater proportions of persons with a university degree had a lower suicide mortality rate. The other study[100] found no association between SES and suicide rates among older persons when the SEIFA index was used.

Three other studies found that:

- males who had been employed as labourers and related workers had higher mortality rates for heart attack or coronary risk, whereas lower rates were observed for males employed as para-professionals and plant/machinery operators/drivers[89]
- rates of colo-rectum cancer mortality were higher in middle-class areas and lower in areas characterised as 'low' SES[84]
- rates of ischaemic heart disease mortality were higher in areas characterised by low median income and high proportions of single-parent families and high proportions of the population renting publicly[91]

Physical morbidity

Two studies examined the relationship between SES and morbidity among the elderly. These studies found that persons characterised as 'low' SES reported higher levels of chronic illness[106] and had higher rates of endentulism and missing teeth.[181]

**See Appendix H for details

Mental and psychosocial morbidity

One study was identified that focused on the relationship between SES and mental/psychosocial morbidity among the elderly. It found that elderly persons from low SES backgrounds had significantly lower levels of social interaction compared with their higher status counterparts.[182]

Risk factors

No studies were identified that examined the relationship between SES and risk factors among the elderly.

Health behaviours

Two studies examined the relationship between SES and health behaviours among the elderly. One study found that females aged 60 years or more in the highest SES group had diets that were least consistent for cancer risk.[149] The other reported that elderly persons from low SES backgrounds had significantly lower levels of physical activity.[182]

Health services

Four studies were identified that examined the relationship between SES and health service utilisation among the elderly. Elderly persons defined as 'low' SES:

- made greater use of GP services[106,183]
- were less likely to have visited a dental provider in the previous 12 months[163]
- were more likely to have been prescribed medication and have had a diagnostic test ordered or undertaken[171]

Attitudes, knowledge and beliefs

No studies were identified that examined the relationship between SES and attitudes, knowledge and behaviours among the elderly.

2.4 Discussion

This chapter has provided an overview of Australian research relating to socioeconomic status and health. The chapter was divided into two sections. The first section presented a descriptive profile of the Australian research effort conducted to-date, and the second section has systematically described the empirical evidence on the basis of population subgroup and health-related outcomes. The following discussion briefly highlights the major findings and identifies a number of issues and challenges which have implications for the future Australian research effort in relation to SES and health.

2.4.1 The Australian research effort into SES and health

We identified 202 published empirical studies that have focused on some aspect of the association between SES and health (with 'health' being defined broadly rather than narrowly). A significant body of Australian evidence relating to socioeconomic health inequalities has therefore been generated over the last few decades. However, it is also the case that the empirical studies were highly variable in terms of the extent to which they focused on the relationship between SES and health. In some studies, this issue formed the central focus of the analysis and discussion. In many others, however, the issue was given minimal coverage and SES was simply treated as one of a number of factors believed to explain the health-related outcome.

Based on our assessment of the existing Australian material there is a clear need for further research to focus more explicitly and exclusively on SES and health. Of those studies that did focus specifically

on this relationship, most were descriptive and were concerned primarily with identifying the nature and extent of socioeconomic health inequalities. These types of studies are clearly necessary and important. However, we need to move beyond description and focus much more on the question of why the relationships exist. Furthering our understanding of the causes and continuation of socioeconomic health inequalities will provide the necessary platform from which to develop policies and interventions that can help address this most significant of public health challenges.

Over the last two decades, there has been a gradual increase in the number of Australian articles that have examined some aspect of the relationship between SES and health. During the period 1995-96 thirty-two articles were published (the largest number for any two-year period between 1971-96). A recent editorial in the *American Journal of Public Health* indicated that during the same period, over 200 papers per month were appearing (internationally) in health-related journals with SES indicators listed as descriptors. This observation raises questions about whether the size of the Australian research effort vis-à-vis SES and health is comparable (in relative terms) with that being undertaken in many other countries.

Our description of the Australian research effort, and our later review of the evidence, involved categorising the studies by population subgroup – infants, children, adolescents, working aged adults, and the elderly. This process proved difficult, as researchers were not very consistent in terms of how they conceptualised and operationalised these groups. As a consequence, some misclassification and overlap inevitably occurred. Despite this, systematically organising and reviewing the literature by population subgroup provided us with a comprehensive and detailed profile of the nature and extent of socioeconomic health inequalities in Australian society. Moreover, in the (near) absence of longitudinal data, this method of grouping the findings provided us with a means (albeit less than ideal) of furthering our understanding of the genesis of these inequalities.

The review also revealed that our understanding of the relationship between SES and mortality at the individual level is limited almost exclusively to patterns of association with occupation-based measures (which are themselves of poor quality due to reporting problems). This observation reflects the fact that other individual-level indicators of SES are not collected as part of the death certification process. It is true that a number of Australian studies have examined the association between SES and mortality on the basis of area-level measures. However, whilst these studies help us elucidate important macro-ecological relationships, they tell us little about more micro level processes and mechanisms. In short, we know almost nothing about how income and education relate to mortality. This issue represents a significant gap in Australian research.

The review also identified a number of gaps in our knowledge of how SES differentials are patterned by geographic region. It would appear that the vast majority of Australian research has used data (at both the individual and area-levels) drawn from 'urban' regions. Moreover, our review failed to identify any published research that addressed the question of whether and to what extent socioeconomic health inequalities in urban regions were similar to, or different from, those found in rural locations. A related question of equal importance which remains to be adequately addressed is whether socioeconomic health inequalities in rural regions are mainly attributable to the poorer health profile of the Aboriginal population, or whether a socioeconomic 'effect' is still evident after taking Aboriginality into account. Examining socioeconomic health inequalities in a rural context represents a difficult challenge for future research, for it is far less straightforward, both conceptually and methodologically, than examining the issue in the urban context.

2.4.2 The Australian empirical evidence

Our presentation of the empirical evidence was delimited to the 202 published journal articles. However, we also closely perused the empirical evidence that was contained in the published reviews and discussion papers, the reports and monographs, and the books and book chapters. Taken as a

whole, the evidence on SES and health in Australia is unequivocal: those who occupy positions at the lower levels of the socioeconomic hierarchy fare significantly worse in terms of their health. Specifically, persons variously classified as 'low' SES have higher mortality rates for most major causes of death, their morbidity profile indicates that they experience more ill-health, and their use of health care services suggests that they are less likely to act to prevent disease or detect it at an asymptomatic stage. Moreover, socioeconomic differences in health are evident for both females and males at every stage of the life-course (birth, infancy, childhood and adolescence, and adulthood) and the relationship exists irrespective of how SES and health are measured. Further, persons from low SES backgrounds experience poorer psychosocial health, have a worse risk factor profile, and are more likely to engage in behaviours that are detrimental for long term health and wellbeing.

There are, however, a number of notable exceptions which run counter to those just described. Specifically, our review showed that some conditions – namely breast and colo-rectal cancer – were disproportionately concentrated among persons from higher status backgrounds. In terms of breast cancer particularly, this is not a trivial issue, for this disease is a major contributor to mortality and morbidity among women. Ideally, attempts should be made to better understand these specific counter-trends, for insights gained from this endeavour are likely to add considerably to our knowledge of socioeconomic health inequalities.

In terms of future research, there are a myriad of issues and questions that are raised by the empirical evidence presented in this chapter. The final chapter of this report, which is concerned with the development of a national research agenda, considers a number of these issues and questions in more detail.

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3 Australia's research capacity

3.1 Introduction

The Australian research effort documented in the previous chapter shows that over the last few decades Australian researchers have made a substantial contribution to the international SES and health evidence base. Importantly, this evidence has added to our knowledge of the ways in which socioeconomic groups differ in their health status within the Australian context. This evidence base provides a partial basis upon which to develop appropriate policies and interventions aimed at ameliorating or reducing social and health differentials due to SES. However, this research effort should be viewed as merely the first stage of a longer term, more strategic approach to tackling this major public health challenge. A large number of research questions remain to be investigated and new research directions pursued. Given the inevitable complexity of the research effort and the fact that it will need to address inter-generational factors, the required research infrastructure and capacity will need to be established.

The aim of this chapter is to review two important aspects of such an infrastructure, namely, the current capacity of research institutions, and the availability of relevant data sets and monitoring systems. Specifically, we address the following three questions:

1. Which institutions have contributed to our stock of knowledge about socioeconomic health inequalities in Australia via the publication of material on this topic?
2. What data sets and sources have researchers at these institutions used to examine the relationship between SES and health?
3. What data sets are potentially available for use by individual researchers and research institutions that wish to investigate issues relating to SES and health?

Addressing these questions will go at least some way towards determining the extent to which Australia's existing research infrastructure has the capacity to further advance our understanding of socioeconomic health inequalities.

3.2 Methods

3.2.1 Identifying contributing institutions

The institutions were identified by examining the authorship and/or publication details of the references that were located using the various search strategies described in Chapter 2. For the purposes of this section, we focus only on the published empirical studies (n=202) and the reports and monographs (n=26). For published empirical studies we defined the institutional address as that identified with the first-named author, or the author to whom correspondence was to be directed. For reports and monographs we used the institution responsible for its publication.

We explicitly acknowledge that this approach to identifying Australia's institutional capacity is limited and problematic. For example, there is not always a direct correspondence between the author of the paper or report and the institution indicated on the publication: in some instances, authors were employed at one institution whilst producing work under the aegis of another. We also need to recall that the institutions were identified on the basis of the publication of material that

relates to SES as typically conceptualised and measured by the research community. We have not specifically identified institutions that have published material on related topics such as Aboriginal health, homelessness and unemployment.

In short, this profile of Australia's institutional capacity as it relates to SES and health is indicative only. The compilation of a more exhaustive, accurate and detailed profile would require time and resources that extend well beyond the scope of the current project. In the absence of such an effort, however, we believe that the profile generated in this report represents an important starting point that can be improved and extended further.

3.2.2 Identifying data sets and sources used by researchers

The data sets and sources actually used by researchers at these institutions were ascertained in the main by examining the methods section of the publications. We do not present an exhaustive listing of every data set or source, as authors did not always provide sufficient information for this to be reliably determined. Again, we only report data sets and sources that were identified from the published empirical studies and the empirically based reports and monographs.

3.2.3 A sample inventory of Australian data sets

Information about the availability of data sets and sources for use by researchers was ascertained in two ways. First, by a survey that was distributed to members of the national health inequalities email network (a copy of the survey and its associated protocol are contained in Appendix B). Second, by interviews with officers from a range of national and State-based organisations such as the Australian Bureau of Statistics, government departments and the Australian Institute of Health and Welfare. The data sets and sources are presented in the form of a 'sample' inventory that describes their main characteristics. It is important to emphasise that no attempt was made to provide a complete coverage of all the available data sets as the size and complexity of this task extends well beyond the limits of this project. Rather, we identify some of the existing data sets whose scope, contents and coverage have the capacity to make a significant contribution to a national health inequalities research and policy agenda.

3.3 Findings

3.3.1 Institutions contributing to Australian SES Research

Table 3.1 identifies the main institutions responsible for Australia's research effort to date, including the number of articles published from each institution.

Table 3.1 Institutions contributing to Australia's research effort, including the number of publications[1]

Institution	Number
Published empirical articles	
Anti-Cancer Council of Victoria	9
Australian National University	8
BHP Medical Centre (Melbourne), Department of Occupational Medicine	2
Child, Adolescent and Family Health Service (Adelaide), Magarey Institute	2
CSIRO Division of Human Nutrition (Adelaide)	20
Deakin University	5
Health Commission of New South Wales	2
Health Commission of Victoria	2
Monash University	8
Princess Margaret Children's Medical Research Foundation (Perth)	3
Queensland University of Technology	3
Royal Children's Hospital (Melbourne)	2
South Australian Health Commission	4
University of Adelaide	9
University of Melbourne	15
University of New South Wales	14
University of Newcastle	10
University of Queensland	17
University of Sydney	15
University of Tasmania	3
University of Western Australia	12
Other[2]	37
Reports and monographs	
Australian Institute of Health and Welfare	7
Australian Institute of Family Studies	4
National Health Strategy	2
South Australian Health Commission	2
Other[2]	11

1. A more exhaustive and detailed version of this table is provided in Appendix I
2. Includes institutions for which only one article, report or monograph was published

We identified a total of 67 institutions that have contributed to Australia's knowledge-base vis-à-vis socioeconomic health inequalities. The institutions reflect a broad array of academic disciplines and professional perspectives, and include universities and other tertiary institutions, government departments, hospital research centres, health promotion foundations and councils, and specialised (single issue) research centres and concentrations. At least 58 institutions have been responsible for the publication of empirical articles and 15 institutions have produced reports and/or monographs.

A notable feature of Table 3.1 is the large number of institutions (n=37) that have published only one empirical journal article (a full listing of all institutions is presented in a more expanded table in Appendix I). The single institution that has published the most empirical articles dealing with an aspect of SES and health is the CSIRO Division of Human Nutrition in Adelaide. As the name suggests, the articles published by this organisation focus on the relationship between SES and food and nutrient intake, and to a lesser extent on dietary behaviour. As a group, universities have been responsible for the greatest number of published empirical articles, with the University of Queensland producing the most (n=17) and the University of Tasmania the least (n=3).

3.3.2 Data sets and sources used by Australian researchers

Table 3.2 presents a selection of the types of data sets and sources used by Australian researchers. This table combines the data sets and sources that were identified from the empirical journal articles and the reports and monographs. A diverse and extensive array of sources has been used to date. These include population-based surveys, disease and death registers, surveillance systems, organisational information systems (e.g. Health Insurance Commission), a range of databases, client and patient records, and data sets initiated by individual researchers and research teams from tertiary or other institutions.

Table 3.2 Selection of data sets and sources used by Australian researchers to examine socioeconomic health inequalities*

ABS Birth Registry
ABS Household Expenditure Survey
ABS National Health Surveys
ABS Mortality data
ABS Survey of Disabled and Aged Persons
ABS Census data
ABS National Household Survey of Alcohol and Tobacco Consumption Patterns
ABS Occupational Injury Data
ABS Labour Force Surveys
Adelaide Nutrition Study
Australian Living Standards Study
Australian Family Project
Blue Mountains Eye Study
Canberra Mental Health Survey
DASETT National Surveys
DEET Longitudinal Australian Youth Survey
Gosford-Wyong and Illawarra Health Survey
Government Statistician computer files
Health and Fitness Survey of Australian Schoolchildren
Histopathology reports
Hospital morbidity reporting systems
Hospital in-patient monitoring systems
Mater University Study of Pregnancy
Medicare database
Melbourne Visual Impairment Project
National Survey of Lead in Children
National Dietary Survey of Australian Schoolchildren
National Injury Surveillance Unit database
National Heart Foundation Risk Factor Prevalence Study
New South Wales Central Cancer Registry
New South Wales Health Promotion Survey
Queensland Childhood Malignancy Registry
Queensland Suicide Register
Records and files from: antenatal clinics, child care centres, child protection teams, community health centres, coroners, cytology laboratories, family planning clinics, general practitioners, hospital outpatient departments, infant welfare centres, maternal and child health clinics, nursing homes, pathology laboratories, police and ambulance services
Registrar General of Births, Deaths and Marriages (death data)
South Australian Cancer Registry
South Australian Mental Health Services database
South Australian Perinatal Statistics Collection
South Australian Longitudinal dental survey
Victorian Nutrition Survey
World Health Organisation MONICA project
Youth and Community Services child abuse data

* A large number of study-specific data sets that were generated by collecting data via organisations such as health promotion foundations, schools, welfare agencies, health centres and marketing research companies were also identified

3.3.3 A sample inventory of currently available Australian data sets

This section presents an inventory of Australian data sets containing questions and items that allow researchers to address issues relating to SES and health. The inventory has been compiled for demonstration purposes only and could be extended significantly. The compilation and dissemination of an inventory such as that presented here would help ensure that the national investment in such data sets vis-à-vis SES and health was maximally utilised.

Since 1990 two comprehensive inventories of Australian data collections have been compiled. These are:

- van Ommeren M, Merton C and Short G (1991) *Inventory of Australian health data collections*. Australian Institute of Health, AGPS, Canberra
- Australian Institute of Health and Welfare (1996) *National directory of data collections in health, welfare and housing*. AIHW, Canberra.

These inventories list numerous data sets and projects that facilitate an analysis of the relationship between SES and health.

In addition, useful summaries and explanations of Australia's health information system (and its limitations and likely future directions) have recently been published:

- Australian Institute of Health and Welfare (1998) Developments in health information. In *Australia's Health 1998: the Sixth Biennial Health Report of the Australian Institute of Health and Welfare*. AGPS, Canberra
- Australian Institute of Health and Welfare (1998) *National Public Health Information Development Plan*. Draft prepared for discussion at the National Public Health Information Development Plan workshop, Hobart, 16-17 September 1998. Prepared by AIHW under the auspices of the National Public Health Information Working Group

The latter of these publications, in particular, highlights some of the limitations of our current information systems and data collections vis-à-vis SES and health, and identifies this issue as a priority for the National Health Information Development Plan.

As part of the inventory that follows, we identify and briefly describe twelve data sets that have the capacity to make a significant contribution to health inequalities research and policy within the Australian context.

Sample inventory

1997 National Survey of Mental Health and Wellbeing of Adults

Owner, agency responsible	Australian Bureau of Statistics Health Section (W31C) PO Box 10 Belconnen ACT 2616
Contact	Marelle Rawson Ph: (02) 6252 7995
Timing	May to August 1997
Objectives, purpose	To provide information on the prevalence of a range of major mental disorders, the level of disability associated with these disorders, and health services used as a consequence of a mental health problem
Target population	Adults aged 18 years and over, except groups usually excluded from ABS household surveys
Sample design	An area-based sample of approximately 13600 private dwellings from urban and rural areas in each State and Territory. Data were obtained for 10641 adults aged 18 years and older
Collection methodology	Data were collected using a computer-based interview. The diagnostic component of the interview used a modified version of the Composite International Diagnostic Interview (CIDI)
Health-related data	Affective disorders (hypomania, mania, bipolar affective disorder, depressive disorders); Anxiety disorders (agoraphobia, social phobia, panic disorders, generalised anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder); substance use disorders; neurasthenia; physical conditions; disability; health service utilisation; general assessments of mental health and wellbeing.
Demographic data	Sex; age; country of birth; year of arrival; marital status; number of times married/defacto; language usually spoken at home; and females were asked about number of children; age when youngest and oldest child born.
Socioeconomic data	Education; employment (labour force status and occupation); main source of income; SEIFA index
Dwelling and household data	Tenure type; household type; number of persons, children, elderly, males and females in household

1995 National Nutrition Survey

Owner, agency responsible	Australian Bureau of Statistics Health Section (W31C) PO Box 10 Belconnen ACT 2616
Contact	Marelle Rawson Ph: (02) 6252 7995
Timing	February 1995 to March 1996
Objectives, purpose	To provide food and nutrient data to assist with the implementation of *Australia's Food and Nutrition Policy*; future revisions of the RDIs and future revisions of National Health Goals and Targets. Also, to provide data on food intake for comparison with dietary guidelines and nutrient intake for comparison with RDIs
Target population	Persons aged two years and over, except groups usually excluded from ABS household surveys
Sample design	The NNS was conducted on a sub-sample of private dwelling respondents in the 1995 National Health Survey. An area-based sample of approximately 22600 people from urban and rural areas in each State and Territory. Data were obtained for 13858 adults aged 2 years and over
Collection methodology	The nutrition questionnaire was completed in the main through personal interview techniques. Food intake data was collected using a 24-hour recall methodology. Food frequency data was collected by a self-completion questionnaire
Nutrient data	Food intake; nutrient intake; energy intake; vitamin and mineral supplements; eating habits; desired dietary changes; barriers to changing diet
Health-related data	Actual physical measurements (height, weight, BMI, waist and hip measurements, blood pressure); in addition all information from the 1995 National Health Survey can be linked to the NNS
Demographic data	Sex; age; country of birth; year of arrival; marital status; language usually spoken at home
Socioeconomic data	Education (Age left school, currently studying); Employment (labour force status, occupation); Income (main source of income, gross annual household income); SEIFA index
Dwelling and household data	Tenure type; household type

1995 National Health Survey

Owner, agency responsible	Australian Bureau of Statistics Health Section PO Box 10 Belconnen ACT 2616
Contact	Marelle Rawson Ph: (02) 6252 7995
Timing	January 1995 to January 1996
Objectives, purpose	To provide information on the health status of Australians, their use of health services and facilities, health-related actions, and health-related aspects of their lifestyle
Target population	All persons, except groups usually excluded from ABS household surveys
Sample design	An area-based sample of approximately 23800 private and non-private dwellings from urban, rural and remote areas in each State and Territory. Data were obtained for 53828 people, of all ages, resident in those dwellings
Collection methodology	The main health questionnaire was completed in the main through personal interview techniques (adults responded on behalf of children). The General health and wellbeing form (SF36) and the Women's health supplementary form used self-completion questionnaires
Health-related data	Health status (recent illness/injury, long term conditions, self assessed health, general health and well-being), health-related actions (service use, medications, reduced activity), risk-factors (smoking, alcohol consumption, exercise, injury and accidents, BMI, sun protection, breastfeeding), women's health (breast and cervical screening, hysterectomy, contraception, breastfeeding, HRT)
Demographic data	Sex; age; country of birth; year of arrival; marital status; language usually spoken at home; indigenous status
Socioeconomic data	Education (age left school, highest qualification, currently studying); Employment (labour force status, occupation, length of unemployment); Income (main source of income, gross personal annual income, receipt of pensions/benefits); SEIFA index; health insurance/government health cards
Dwelling and household data	Tenure type; landlord type; dwelling type, number of bedrooms, household and family type

HealthWIZ (1998 release)

Agency responsible	Prometheus Information Pty Ltd PO Box 160 Dickson ACT 2602
Owner	Population Health Division, Commonwealth Department of Health and Aged Care
Contact	1 800 805 073 or (02) 6257 7356
Timing	A range of data sets spanning the period 1972 to 1998
Objectives, purpose	To provide a powerful but easy to use mechanism to aid health workers target their initiatives in an appropriate manner
Target population	Advocates, planners and service providers in government, service agencies and community organisations
Scope and coverage	A variety of population groups from various data providers around Australia
Collection methodology	Negotiation of agreement for use of data directly with data owners
Health-related data	Medicare Trends 1990-95; Deaths Australia 1992-95, 1990-93 and 1985-89; Health Care Establishments; Aged Care; Dementia Estimates; Cancer Australia 1982-90 and 1982-93; Cancer NSW 1972-90; Cancer VIC 1982-91; over 50 data sets of hospital use (public and private, for various time periods and States and Territories); Social Health Atlas: Birthweight 1985-89; Social Health Atlas: Service Provision
Census data	Population Census 1996, 1991 and 1986; Census 1996 Basic Community Profiles; Population (Aboriginal) Census 1991; Population (Ethnic) Census 1991; Social Health Atlas: Population Census 1986
Other data sources	Social Security 1996; Veteran Affairs 1998; Child Care Planning Database 1991 (HFS); Child Care Planning Matrices 91 and 96 (HFS); Child Care Census: Centres 1995 (HFS); Child Care 1998; Population Projections (HFS); Social Health Atlas: Income Support 1989; Population Time Series
Geographic levels	Australia, States & Territories, local (Statistical Local Areas), and others dependent on data set

Australian Longitudinal Study on Women's Health

Owner, agency responsible	Research Institute for Gender and Health The University of Newcastle University Drive Callaghan NSW 2038
Contact	Dr Wendy Brown Ph: (02) 49 216 422
Timing	Baseline data from main cohorts collected between April and September 1996. Follow-up data to be collected between 1998-2003 and then at intervals to 2016 (different years for different age groups and cohorts).
Objectives, purpose `	To examine relationships between biological, psychological, social and lifestyle factors and women's physical health, emotional well-being and their use of and satisfaction with health care
Target population	Women in the general Australian population aged 18-23, 45-50 and 70-75 as well as three special cohorts: immigrants from the Philippines, immigrants from the former Yugoslavian republics, and indigenous women.
Scope and coverage	Main cohort randomly selected from the Medicare data-base by the Health Insurance Commission (n=106000). Coverage includes women from capital cities, metropolitan regions and rural and remote areas. Response rates: 18-23 years (41% 14792), 45-50 (54% 14200), 70-75 (36%, 12614).
Collection methodology	Respondents were recruited using a mail survey methodology. Data were collected using a self-administered questionnaire
Health Data[1]	Includes: general health and well being; activities limited due to emotional and physical health problems; health service and medication use; morbidity check list; stress and coping strategies; adverse life events; lifestyle behaviours; bodyweight, bodyshape and dieting; time pressures; social networks; quality of relationships; dietary habits (70-75 year olds only)
Demographic data[1]	Date of birth; indigenous status; country of birth; language spoken at home; marital status
Socioeconomic data[1]	Employment status and participation; occupation (partner and spouse); education
Household data[1]	Household structure; number of children; dwelling-type; tenancy arrangement

[1]Content of questionnaire differs slightly depending on the age group.

Queensland State-Wide Health Survey, 1998

Owner, agency responsible	Queensland Health Health Information Centre
Contact	Dr Gayle Pollard or Dr Christine McClintock
	Ph: (07) 3234 0928
Timing	April to July 1998
Objectives, purpose	To provide data on general health, risk factor behaviours, expectations of hospital patients, diabetes, oral health and home safety
Target population	Adults aged 18 and over
Scope and coverage	Based on a sample of 5594 adults from private households in both urban and rural areas of Queensland
Collection methodology	Data were collected via telephone using a computer assisted telephone interviewing (CATI) methodology
Health data	General health; functional health status; patient expectations; issues relating to general practitioners; height and weight; exercise; blood pressure and cholesterol; smoking; heart attack and CPR; diabetes; oral health; falls; alcohol consumption; food poisoning; organ donation; mental health; health insurance
Demographic data	Sex; age; marital status; country of birth; language usually spoken; indigenous status
Socioeconomic data	Education; employment status; occupation of main income earner; household income
Dwelling and household data	Number of people and adults in household; number of registered motor vehicles; tenure
Other data	Community involvement and trust; home safety

Australian Bureau of Statistics' Death Unit Record Files

Owner, agency responsible	Australian Bureau of Statistics PO Box 9817 Brisbane Qld 4001
Contact	Mr Peter Burke Ph: (07) 3222 6069
Timing	Death file is available in electronic format from 1964 to the present (changes to the file structure and some fields have occurred over this period)
Objectives, purpose	To provide data for the monitoring and surveillance of mortality trends
Target population	All persons
Scope and coverage	All deaths (approximately 125000 deaths per year)
Collection methodology	All deaths are recorded on a Death Certificate (completed by a doctor or coroner) and a Death Information Form (completed by next of kin). The death certificate includes basic social data and cause of death. The Death Information Form includes a more extensive list of social data. These two forms are sent to the Office of Births, Deaths and Marriages in each State and Territory, which enters the information into a database. The data are subsequently sent to the Brisbane office of ABS where they are checked, cleaned and assigned codes (eg ICD and ASCO)
Health data	Cause of death; who certified death; post mortem; conditions/causes mentioned on death certificate: drowning; cancer; maternal death; tuberculosis; leukemia; drugs; AIDS; asthma; diabetes; asbestosis
Demographic data	Sex; age at death; date of birth; marital status; birthplace; length of residence in Australia; age at first marriage; number of children; Aboriginality (variable quality); date of marriage
Socioeconomic data	Occupation (doubtful quality)
Other data	Year, month and State of registration; registration district and number; date of death (year, month, day); usual residence/ SLA level

NSW Health Promotion Survey 1994

Owner, agency responsible	NSW Health Department Centre for Health Development Locked Mail Bag 961 North Sydney NSW 2060
Contact	Mr Philip Vita Ph: (02) 9391 9814
Timing	1994
Objectives, purpose	To seek information to assess the prevalence of health promotion-oriented practices and beliefs, and to use this information as a benchmark against which progress over time could be monitored
Target population	Adults 18 years and over
Scope and coverage	Based on a sample of 16165 persons in private households from 16 areas and rural district clusters of the NSW health system
Collection methodology	Telephone interview
Health data	Dietary habits; breastfeeding; exercise; blood pressure; diabetes; blood sugar; asthma; immunisation; smoking; alcohol; sun protection; injuries; helmet wearing; safety issues (alarms, safety switches); psychosocial health; sexual activity; oral contraceptive use
Demographic data	Country of birth; usual language spoken; indigenous status
Socioeconomic data	Education; employment status
Dwelling and household data	Household size and structure; age and sex profile; dwelling type and tenure.

NHF Risk Factor Prevalence Study 1989

Agency responsible	Australian Institute of Health and Welfare GPO Box 570 Canberra ACT 2601
Contact	Dr Stan Bennett Ph: (02) 6244 1141
Timing	Data collected between June and December 1989
Objectives, purpose	To determine the prevalence of cardiovascular risk factors To compare the prevalence of risk factors between geographical regions and population groups and to correlate this with mortality from CVD Using repeated surveys (1980, 1983, 1990) to assess the degree to which trends in CVD mortality are associated with changes in risk factor prevalence
Target population	Adults aged 20-69 years
Scope and coverage	A mailed invitation was sent to 12470 people. The study is based on a sample of 9328 respondents (77% response rate) selected from the electoral rolls of nine catchment areas: Sydney (North and South), Melbourne, Brisbane, Adelaide, Perth, Hobart, Darwin, and Canberra
Collection methodology	Respondents attended survey centres where they completed a questionnaire, had physical and blood pressure measurements and gave blood samples
Health data	BMI; blood tests; blood pressure; last blood pressure and cholesterol measurement; experience of high blood pressure, cholesterol and triglycerides; angina; heart attack; stroke; tablets or treatment for blood pressure; blood fat; angina; medical diagnosis of diabetes or sugar in urine; use of oral contraceptive pill (women only); physical activity; smoking; alcohol consumption; self-reported height and weight; dietary habits;
Demographic data	Age, sex, marital status
Socioeconomic data	Highest level of education; occupation; employment status; income (self and partner); main income source
Dwelling and household data	Number of children and full-time students being cared for; living arrangements; place of birth

1998 Survey of Disability, Ageing and Carers (ABS)

Owner, agency responsible	Australian Bureau of Statistics Family and Community Statistics (W31C) PO Box 10 Belconnen ACT 2616
Contact	Elisabeth Davis Ph: (02) 6252 7430
Timing	March to May 1998
Objectives, purpose	To collect population-based data on persons with disabilities, those aged over 60 years and carers of these population groups
Target population	All persons with a disability, those aged over 60 years and carers of these populations
Sample design	An area-based sample of approximately 15300 private dwellings, 400 non-private dwellings and 800 establishments from urban and rural (excluding remote) areas in each State and Territory
Collection methodology	Data from establishments were collected using a mail based questionnaire. All other data were collected through personal interview techniques.
Disability data	Presence of disability; main disability condition; cause of main condition; age when condition became apparent; whether condition was likely to improve; disability status; identification of core activity restriction based on: self-care, mobility, verbal communication, employment or schooling; severity of restriction; aids used; need and unmet need for assistance
Demographic data	Sex; age; marital status; country of birth of respondent
Socioeconomic data	Education; employment (labour force status, occupation); income and main income source
Dwelling and household data	Description of dwelling; nature of occupancy
Other data	Extent of participation in community activities outside the home; role and involvement of principal carer

Social Health Atlas of Australia Data

Owner, agency responsible	South Australian Health Commission PO Box 65 Rundle Mall Adelaide SA 5000
Contact	John Glover ph: (08) 82266494 or Tony Woollacot (08) 82266033
Timing	1985-90 (timing varies by health outcome and area)
Objectives, purpose	To describe the patterns of distribution of socioeconomic disadvantage and health status at a local level and, by inference, partially describe the populations of these areas
Target population	Not applicable
Scope and coverage	Sociodemographic and health data for urban and rural areas of Australia
Collection methodology	Collation of socioeconomic and health data provided by the Australian Bureau of Statistics, The Commonwealth Department of Health, Housing and Community Services, Department of Social Security, and State/ Territory Health Authorities
Health data	Morbidity (various conditions);mortality (various conditions); low birthweight; use of GP services; hospital inpatient separations and admissions; consultations; use of medications; days of reduced activity; risk factors; women's health; private health insurance; disability and handicap
Demographic data	%children 0-4; %adults 65+; %single parents; %female labour force participation; %indigenous Australians; %NESB and resident for 5 or more years; %NESB and resident for less than 5 years; %NESB and poor English; %age pensioners; %disability support pensioners; %female sole parent pensioners; %dependent children of selected pensioners and beneficiaries
Socioeconomic data	%low income; %unskilled and semi-skilled; %unemployed; education ratio; SEIFA; %unemployment beneficiaries
Dwelling and household data	%housing authority rented dwellings; %dwellings with no vehicles
Geographic levels	Statistical Local Areas/postcodes; urban centres; statistical sub-divisions; statistical divisions; States and Territories; Australia

1998 Healthy Communities Survey, Tasmania	
Owner, agency responsible	Department of Health and Human Services, Tasmania Health and Wellbeing Outcomes Unit GPO Box 125B Hobart Tasmania 7001
Contact	Ms Lori Rubenstein Ph: (03) 623 33185
Timing	November 1998
Objectives, purpose	To provide baseline data on the health status and quality of life of adults, as well as the determinants of these.
Target population	Adults aged 18 years and over
Scope and coverage	Based on an initial sample of 25000 adults throughout Tasmania who had been randomly selected from the electoral roll
Collection methodology	Self-complete questionnaire administered using a mail survey
Health-related data	Physical and emotional health; daily functioning; quality of life; life satisfaction; projected health status and social wellbeing of self and others; perceptions of control and trust; health behaviours and beliefs; perceptions about the health and social effects of alcohol and gambling; food security; service use (health and other)
Demographic data	Sex; age; country of birth; language spoken at home; marital status; employment status
Socioeconomic data	Education level; occupation; income (self and partner); perception of financial difficulties
Dwelling and household data	Living arrangements; number of people in household; children (number and ages); tenure; mortgage payments; perceived adequacy of housing; length of time at current address; perceptions of quality and safety of neighbourhood
Other data	Job satisfaction; social and family networks and support; carer roles and responsibilities; community involvement and voluntary work

3.5 Discussion

This chapter has examined two aspects of Australia's research capacity relating to SES and health, namely, institutions that have contributed to the country's research effort, and data sets and sources available for use by researchers. In the discussion that follows, we briefly examine a number of issues that arise from these findings.

3.5.1 Institutions contributing to Australian research

A large and diverse group of institutions have contributed to our knowledge base vis-à-vis SES and health: we identified 67 independent institutional units (Table 3.1). However, as the table in Appendix I indicates, the picture is much more complex than the summary table suggests. When we take into account the various departments, centres, sectors and branches, we identified a total of 114 'sites'. Significantly, the majority of these sites have been responsible for the production of only one or two publications (which includes both journal articles and reports and monographs). Clearly, there

is currently no particularly well organised and funded critical mass of research capacity in SES and health in Australia. Much of the research to date has been investigator-initiated and has been published in an ad hoc, idiosyncratic, uncoordinated and non-systematic basis. If we are to fill the significant knowledge gaps that remain, we will need to adopt a more strategically coordinated approach. This issue is examined in more detail in the final chapter of this report.

3.5.2 Data sets and sources

Australian researchers investigating the relationship between SES and health have used a diverse array of data sets and sources. At the risk of oversimplifying this diversity, these can be grouped into four categories:

1. Population based surveys

2. Composite and derived data collections (e.g. HealthWiz, Social Health Atlas Data)

3. Health Information Systems (e.g. morbidity and mortality registers, health information data bases)

4. Patient and client records and files

Many of the data sets used by researchers, as well as some of those listed in the inventory, were derived from large-scale epidemiological surveys conducted by the ABS or Commonwealth and State Health Departments. A primary purpose of these surveys was to generate information about the health status of the Australian population and its subgroups. This information is used mainly for monitoring and surveillance purposes (eg to identify current health trends and changes over time). These data sets typically include items relating to physical and psychosocial morbidity, risk factors, health behaviours, health service utilisation and medication use, as well as a battery of standard geographic, demographic labour force, and socioeconomic items*. Using these data sets we can obtain a national or State-based profile of the relationship between SES and health, as well as an insight into some of the likely contributors to this relationship (eg smoking and exercise behaviour, food and nutrition intakes). Beyond this, however, these monitoring and surveillance data sets tell us little about the processes and mechanisms that underlie the observed associations between SES and health, and SES and risk factors or health behaviours. Nor can they be expected to, for they were not designed for 'research' purposes per se. The same can be said for databases such as HealthWiz and the Social Health Atlas data. These compilations bring together health and social data from a range of sources and provide a detailed profile of how health and its major determinants are geographically distributed.

In many respects, data sets from broad-based large-scale epidemiological surveys, and area-based collections, are necessarily pre-analytic. They provide the statistically representative baseline information from which more specialised and detailed data sets and projects can be formulated.

The design and development of studies and projects that focus specifically on the relationship between SES and health are more appropriately the domain of independent researchers or investigators. To our knowledge, however, few Australian 'research' studies have been designed and subsequently funded for this particular purpose. However, if our understanding of the relationship between SES and health is to be significantly advanced, then research projects that focus specifically on this issue are essential. Our understanding of this relationship is not going to be substantially furthered via a secondary analysis of large-scale broad based data sets, that, whilst useful, were not designed originally for this purpose.

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* This generalisation is not always strictly accurate. For example, the Healthy Communities Survey recently conducted by the Tasmanian Department of Health and Family Services canvases a much broader array of health-related issues than is typical of most other large-scale population-based surveys (see sample inventory).

Finally, we need to make a number of general comments about the suitability of current health information and record keeping systems as they pertain to SES and health*. First, they were not initiated nor compiled for purposes relating to SES and health. Second, the measures of SES (if any) included as part of these collection processes are often limited in scope, are poorly reported and inconsistently recorded. Third, whilst these systems may contain questions and items relating to both SES and a health-related outcome, they rarely also include measures that can be used for possible explanatory purposes. As a consequence of the foregoing, the available health information and record keeping systems facilitate only a basic descriptive investigation of the issues.

* We should stress that these comments are in no way a criticism of the health information and record keeping systems as they currently exist; it is unreasonable to expect that these systems be tailored or customised for research purposes, particularly as they relate to socioeconomic health inequalities. Rather, we raise these issues because it is important that we have a clear idea of the current capacity and limits of our information-gathering infrastructure. This knowledge constitutes a necessary platform upon which to develop more innovative ways of recording and compiling SES data.

4 A review of policies and interventions to reduce socioeconomic health inequalities

4.1 Introduction

This chapter begins with a brief discussion of a policy and intervention framework that serves to give structure, organisation and focus to the material that follows. We then examine a number of policies and interventions that have been proposed to tackle socioeconomic health inequalities. Where possible, evidence relating to the effectiveness (or otherwise) of these approaches is presented.

A brief overview of some of the more important publications pertaining to frameworks, policies and interventions is presented in the annotated bibliography in Appendix J.

4.2 A policy and intervention framework

In Chapter 1, a framework of socioeconomic health determinants was introduced and briefly described. The framework has a number of features that can assist the conceptualisation and development of appropriately targeted and implemented policies and interventions: *

- The flow, structure and layout of the framework suggest many entry points for tackling health inequalities.
- It implies that the more macro-level or upstream approaches are very important with respect to tackling health inequalities in the population.
- It explicitly acknowledges that individuals live and work in a variety of social, physical, economic and environmental contexts that influence psychosocial wellbeing and behaviour, and ultimately, health.
- It emphasises the need for policies and interventions that incorporate inter-sectoral collaboration (between, for example, health, housing, education and employment sectors).
- It identifies the health care system as having an important role to play in terms of moderating the extent of socioeconomic health inequalities in the broader society.

4.3 A review of policies and interventions

In accordance with the major components of the framework, this section reviews policies, interventions and evidence of their effectiveness under the following headings:

- Changes to macro-level social and economic policies
- Strengthening communities for health
- Improving living and working conditions

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* A number of other frameworks for intervention have been proposed, most notably Dahlgren and Whitehead's [22] 'layers of influence' model, and more recently, a model by New Zealand's National Advisory Committee on Health and Disability[3]

- Influencing behavioural risk factors
- Initiatives aimed at strengthening individuals and families
- The role of the health care system and its associated services

4.3.1 Changes to macro-level social and economic policies

A range of policies has been recommended to alleviate socioeconomic health inequalities at the macro-level.[1,2,3,4,5,6] These include:

- redistribution of wealth through progressive taxation;
- income maintenance policies for individuals and families in poverty;
- improvement of education especially for the disadvantaged;
- education and training policies to alleviate unemployment and prevent poverty in the long term;
- policies that secure economic and geographical access to education and training;
- labour policies that reduce the risk of unemployment among those in a weak position in the labour force (e.g. young, indigenous and disabled people);
- policies that prevent ill health in the unemployed;
- the reduction of income differentials through policies that compress income scales, give priority to low income occupational groups in terms of wage rises, and secure a minimum wage; and
- legislation that requires a health impact statement for *all* government economic and social policies prior to their implementation.

Policies implemented at the macro-level have been suggested as tackling the most fundamental determinants of inequalities in health. These macro-level policies are recognised as difficult to achieve.[7,8,4,3] Nevertheless, advocates remain committed and cite international evidence which suggests that countries with less economic inequality have better health outcomes than countries with greater disparities between rich and poor, independent of the economic growth of that country.[*9,2] Evidence reported by the WHO[2] on developing and developed countries suggests that economies with very unequal income distributions generally have a slower rate of growth. Moreover, a highly unequal income distribution makes it harder to reduce poverty, whereas reducing poverty in itself can lead to economic growth.

There is other international evidence about the impact of economic development and income inequality on health. A study of eighteen industrialised countries found that the degree of income inequality was important for explaining the rate of infant mortality.[10] Moreover, high rates of universal family benefits were linked to relatively low rates of infant mortality. On the other hand, countries that had a high rate of unemployment and did not have adequate social security experienced higher rates of infant mortality. Wennemo[10] concluded that policies which aimed at securing a more equitable distribution of income and an adequate level of social security for those economically at risk may be effective in reducing infant mortality rates.

The theme that emerges from the foregoing evidence is that what is important for health status is the pursuit of macro-level social and economic policies that provide a national infrastructure for health.

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* See notes for WHO (1998) in Annotated Bibliography, (Appendix J).

This requires investment in:

- physical assets, such as health care system infrastructure, schools, transport systems and housing; and
- social assets, including education, and institutional structures such as social security, the operation of the health care system, political stability and participation in civil society.[11]

The conclusion drawn from consideration of the evidence from developed countries is that the social policy approaches of the last two decades have been based on the assumption that economic adjustments have been inevitable and necessary, and that the negative social consequences have been subsumed to overall economic objectives.[2] Further, there is evidence that economic growth in itself does not improve equity, and conversely, that equity policies can be maintained even when there is little economic growth.[12]

An empirical example in support of some of the points made above comes from Finland[13]. Lahelma found that despite the economic recession of the 1990's and the rapid rise in unemployment, health status was slightly improved (or stable) for all social groups, with no widening of gaps. Reasons given include the positive effects of policies aimed at ongoing improvement of general living conditions and levels of education throughout this period. In addition, there were occupation-related structural changes that implied less physical workload and exposure to health risks. There are two caveats, however. First, the health consequences of an insecure future and continuing adverse economic and labour market conditions may be expected to show up over a longer time frame. Second, adverse health trends may become apparent within marginalised and vulnerable subgroups.[13] Despite these points of caution, the authors note that we might have reasonably expected to witness a worsening and/or a widening of gaps in health status among socioeconomic groups in Finland given the adverse economic conditions.[13] One conclusion that may be tentatively drawn from consideration of this case-study is that the investment in Finland's social 'assets' (which continued during the economic recession) may have protected the population from a decline in health status and a widening of health inequalities. The extent to which this pattern persists will be the focus of future research efforts in Finland.[13]

The social and economic policies that have been pursued in some other developed countries since the 1970's and 1980's, however, are very different from those in Finland. In Britain and the United States in particular, the economic and political goals that have been pursued include reducing balance-of-payments deficits and inflation, privatisation, and shifts towards more market-oriented systems. These aims have been enacted by cuts in government spending, casualisation of work and changes in the tax system from progressive to regressive payments that favour the better off.[1] The net outcome has been an increase in the numbers of people in poverty and increasing social polarisation.[14] This has been accompanied by a reduction in the real income of the poor and an increase in the income of the well off, which has resulted in quite dramatic income inequalities.[1,15]

In Britain, more years of data collection are necessary before it can be determined whether income inequality in that country has resulted in a widening of the mortality gap between socioeconomic groups.[1] Whitehead, however, cites evidence from a number of local studies conducted in the UK that indicate a worsening of health differentials in some areas. One recent study reviewed evidence which showed that differences in mortality between the most deprived and the most affluent areas in northern England increased dramatically between 1981 and 1991.[16] This study performed an area-based analysis of mortality trends in Glasgow over the period 1980 to 1992 and the results confirmed the general pattern of increased mortality differentials.

Similar changes in social and economic policies have been observed in the United States over the same time period. This has coincided with dramatic increases in income and wealth inequality.[17] There is some evidence emerging about the health impact of the growing inequalities in income in

that country. Two recent studies from the United States examined the relationship between income inequality and a variety of health outcomes.[17,18] The key findings from these studies were:

- income inequality was significantly related to changes in mortality; and
- income inequality was associated with a large number of other health outcomes and with measures related to investments in human and social capital.

The conclusions drawn by these studies are as follows:

> If these results are confirmed in other analyses there should be cause for concern. Given that inequalities in wealth are far greater than those for income in the United States, the health effects of inequality are likely to be even larger than those suggested by the current results.[17]
>
> Economic policies that increase income inequality may also have a deleterious effect on population health.[17]
>
> Our findings provide some support for the notion that the size of the gap between the wealthy and less well off ... matters in its own right. This finding in no way diminishes the importance of measures to alleviate the burden of poverty. None the less, in an affluent society such as the United States, reliance on trickle down policies may not be enough - society must pay attention to the growing gap between the rich and the poor.[18]

As already noted, in the last decade or so there is evidence of a widening of socioeconomic inequalities in health in the developed world.[15,17,18] Saltman cites evidence about the causes of this gap from Swedish researcher Goran Dahlgren. Dahlgren found that the sources of health inequality are different among different socioeconomic groups:

> For the middle classes, the causes of poor health status were predominantly behavioural, whereas among the lower social classes they were structural in nature - that is, related to housing, education, employment, nutrition, and so forth.[19]

In other words, downstream factors are likely to be more salient for the higher SES groups in terms of producing better health outcomes. On the other hand, for lower SES groups, actions taken upstream (i.e. at the macro policy level) are likely to be more important for securing better health outcomes than action which is more narrowly focused on personal behaviour and/or lifestyle factors. Dahlgren made two recommendations for more effective policy aimed at reducing socioeconomic health inequalities:

- Policy instruments should be targeted on different issues to reach different social groups; and
- policy instruments that target the behavioural issues of higher SES groups are unlikely to dramatically affect the structural problems of lower SES groups. Thus, if health promotion is to be effective in reducing inequalities in health status between SES groups, it will have to move beyond behavioural measures to structural changes - that is, to intersectoral measures concerning housing, education, employment etc.[19]

4.3.2 Strengthening communities for health

Community development projects are aimed at ‘strengthening’ local areas and typically deal with factors identified as detrimental to the health of the local population. In addition, these projects often attempt to strengthen community ties and networks.[1,20,3,22] A key feature of community development is the involvement of the local population in the formulation and management of the project. This can optimise the ability of a community to mobilise resources to support the project. The World Health Organisation (WHO) has provided leadership in this area with their Healthy Cities/Communities initiative.

Some of the issues that communities may deal with include: *

- empowerment of local communities through skills and network building
- funding individuals on estates (or in deprived areas) to coordinate activities
- establishment of community support networks
- urban renewal
- environmental campaigns
- neighbourhood watch programs
- traffic calming
- creation of safe play areas for children

Community development initiatives that do not aim specifically to improve health can nonetheless result in better health in the population through the enhancement of quality of life.[3]

The initiation of community development schemes, however, needs careful and considered planning and implementation, for a number of unintended negative outcomes can occur for disadvantaged communities.[1] Some of these include:

- the danger of a community being stigmatised as a 'deprived' area
- conflict with other deprived communities who may be in competition for scarce resources
- cynicism among the local community about the efficacy of these projects to make a real difference

Successful community interventions have usually been 'grass-roots' in origin and tend to be most successful in the improvement of mental health and well being in deprived areas.[1] Leading examples of this type of intervention are from the Healthy Cities initiatives by the WHO.[21] The Healthy Cities project has as its framework the implementation of the Ottawa Charter for Health Promotion and aims to implement the Charter through developing multi-sectoral health and public policy and creating physical and social environments that support health. In other words, the project aims to improve health by building a 'new public health movement in the cities of Europe and to make health the business of everyone at the city level'.[21] The major limitation in this area of intervention is the lack of clear evidence about success in reducing socioeconomic health inequalities per se.

4.3.3 Improving living and working conditions

Actions dealing with living and working conditions include population-based services and environmental measures,[3] and represent some of the 'classic' public health interventions, for example, those directed at improved housing and sanitation, safe food and environment, and safer workplaces and urban renewal.

There is some evidence of success with interventions aimed at improving the living and working conditions of lower occupational groups and the socially and economically disadvantaged. However, the extent to which these strategies have contributed to an overall reduction in socioeconomic inequalities in health is less clear. The following discussion is based largely on two sources. First, a comprehensive review by Whitehead,[1] and second, a World Health Organisation report.[22] Both of these reviews draw on published and unpublished papers, reports and manuscripts. The former, in particular, appears to be the most detailed available to date.

* This list is by no means exhaustive. See Whitehead,[1] NACHD,[3] Dahlgren & Whitehead[22] for further details.

Interventions aimed at improving living conditions have typically focused on housing. A review of some of the available evidence is provided by Dahlgren and Whitehead:[22]

- In 1985, Finland introduced a strategy aimed at ensuring that all homeless people were housed by 1990, and that inadequate housing conditions were brought up to an acceptable standard by 2000. Measures have been jointly implemented by the housing, social welfare and health sectors and have brought about some improvements.
- In Glasgow, the city council and electricity board collaborated to improve damp housing in a deprived neighbourhood. The evidence suggests that children in improved housing were better protected against the health risks associated with damp housing.
- In Liverpool, a "Better Housing, Better Health" scheme was established. An evaluation showed that fully improved houses were linked to fewer symptoms of ill health and lower levels of emotional distress.
- In London, a project called "Newpin" aimed at encouraging mutual support amongst parents of young children was introduced in response to local concern at the high rates of maternal depression, isolation, poor child health and child abuse. An evaluation showed major improvements in maternal mental health, fewer child behaviour problems and less child abuse, as well as improvements in family relationships and less social isolation.

Intersectoral collaboration is clearly a common factor in all of these projects.

Throughout the twentieth century improvements have also been achieved in physical work conditions and these measures have reduced, but not eliminated, socioeconomic differences in exposure to hazardous workplaces. In recent years, there has emerged a so-called 'new agenda'[1] in terms of reducing socioeconomic health inequalities in the workplace, which focuses on the amount of stress experienced. One of the mechanisms that has been suggested as underlying the relationship between workplace stress and health is the degree of control people have over their jobs.[15,24]

In terms of the prevention of workplace related stress, Whitehead[1] notes four possible points of intervention:

- individual-level (e.g. counselling and education to develop coping skills)
- improvements in communication patterns and human relations
- large-scale organisational change (e.g. redesigning production processes and management strategies)
- changes to outside pressures (e.g. market conditions, rules about competition and national labour market programs)

Evidence about the success of interventions to reduce stress in the workplace comes from the International Labour Office study of nineteen international case studies.[25,26,1] The interventions that have been tried include:

- increasing variety and understanding of the different tasks in a production process
- workforce participation in the identification of problems and their solutions
- changing shift patterns to make them less tiring and disruptive to workers' personal lives

The evidence from these case studies shows:

- it is possible to improve working conditions to reduce stress by tailoring changes to specific workplaces
- improvements are greatest among manual and low-status occupations which have the highest risk of psycho-social stress

- less success was reported in interventions involving managers and professional workers where conditions were already relatively good

Some of the factors associated with success include:

- the level of effort put into the program and the willingness of management to take risks
- joint management and labour support
- active involvement of workers in planning
- significant worker participation in group discussions on environmental changes

Whitehead concludes that 'to date, most of the initiatives have been confined to separate workplaces and the scale of the operations has not been sufficient to measure or influence changes in health indicators across occupational groups'.[1] Importantly, she notes that much of the progress has been made in Sweden where there is political commitment at the macro level such that large-scale changes can be enacted.

4.3.4 Influencing behavioural risk factors

Interventions at this level are typically aimed at changing an individual's health related behaviours. Of all the levels of intervention this one represents the main focus for action and includes large scale promotion and education campaigns, and developing skills and resiliency through workshops or counselling. The specific behaviours that are targeted are known disease 'risk factors' and have included smoking, diet and nutrition, sedentary behaviour, alcohol and drug use, and stress and coping.

Individual-level interventions are the least fundamental in terms of alleviating socioeconomic health inequalities and, consequently, are limited in terms of their ability to make much difference to health differentials at the population level.

Table 4.1 summarises the findings of studies that focused on changing behaviours of people from low-SES backgrounds. A key finding from this evidence is that health promotion efforts are not as effective with people from low SES and disadvantaged backgrounds. One reason given is that socioeconomically disadvantaged persons face much greater pressures in dealing with their everyday living and working conditions which makes it more difficult for them to effect behavioural change. Another finding that contradicts the commonly understood causal mechanism between low SES and adverse health behaviours, namely, lack of knowledge and more irresponsibility, has not been supported by the evidence in Table 4.1. On the contrary, people from disadvantaged backgrounds express just as much desire for health related information and show just as much willingness to change. The key differences were practical constraints such as 'time, space, and money'.[1]

The evidence from Table 4.1 also shows that providing social support in addition to advice is more effective in changing behaviour among low SES persons than just providing advice alone.

Table 4.1 Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (changing behaviour)

Studies with a behavioural focus	Intervention area	Findings/conclusions
Jacobson, B. et al. (eds) (1991) *The Nation's Health: A Strategy for the 1990's*. London: King Edward's Hospital Fund for London. Whitehead, M. (1989) *Swimming Upstream: Trends and Prospects in Education for Health*, Research Report no. 5. London: King's Fund Institute.	Health education	• Interventions aimed at changing specific behaviours have shown mixed results • Standard health promotion/education has the greatest impact on the advantaged • Combining education with policy measures at other levels can encourage behaviour change amongst the disadvantaged, but the process is slow
Glynn, T. (1989) Essential elements of school based smoking prevention programme *Journal of School Health* 59: 181-188 Marsh, A & McKay, S. (1994) *Poor Smokers* London: Policy Studies Institute. Warner, R. (1989) The effects of the anti-smoking campaign *American Journal of Public Health* (AJPH) 79: 144-51.	Smoking	• Anti-smoking campaigns are less effective among adults from lower SES groups • Smoking prevention campaigns are less successful among young people from disadvantaged backgrounds
Coulter, A. (1987) Lifestyles and social class: implications for primary care *Journal of the Royal College of General Practitioners* 37: 533-36.	Lifestyle factors and disadvantage	• Lower SES groups are more likely to partake in adverse health behaviours compared with high SES groups • It is commonly assumed that factors intervening between low SES and adverse health behaviour include: less knowledge, greater irresponsibility regards health • Recent evidence does not support this assumption - the association between behaviour and health is recognised by *all* SES groups • Studies have found that there is no evidence of differences in knowledge or willingness to change

Table 4.1 (cont.) Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (changing behaviour)

Studies with a behavioural focus	Intervention area	Findings/conclusions
Burghes, L. (1980) *Living from hand to mouth* London: Family Services Unit/Child Poverty Action Group. Graham, H. (1986) *Caring for the Family.* Research Report No. 1, London: Health Education Council. Lang, T. et al. (1984) *Jam Tomorrow?* Manchester: Food Policy Unit, Manchester Polytechnic	Disadvantaged groups	• People from disadvantaged backgrounds face greater pressures which work against behavioural change • The effort needed to make changes in health behaviour is enormous; substances like tobacco may be increasingly used in times of stress as a means of coping
Colver, A. et al. (1982) Promoting children's home safety *British Medical Journal(BMJ)* 285: 1177-80. Liberato, C. et al. (1989) Safesmart safety seat intervention project *Patient Education and Counselling* 13: 161-70. Robitaille,Y. et al. (1990) Evaluation of an infant care seat programme in a low-income community *American Journal of Disabled Children* 144: 74-8	Disadvantaged groups—child safety	• The combination of practical advice and training with safety equipment has proved effective among low income parents in encouraging the use of child safety measures
Kistin, N. et al. (1990) Breast feeding rates among black urban low-income women *Paediatrics* 86: 741-6. Macquart-Moulin, G. et al. (1990) Évaluation des enfants d'une campagne de soutien a l'allaitement exclusif au sein à un *mois Revue Epidémiologique at Santé Publique* 38: 201-90.	Disadvantaged groups—breastfeeding	• Breastfeeding rates were increased among black low income women in Chicago who participated in group classes or received counselling • A combination of maternal and professional education and support after delivery led to an increase in breastfeeding rates in France - the greatest benefit was seen among women from low SES backgrounds

Table 4.1 (cont.) **Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (changing behaviour)**

Studies with a behavioural focus	Intervention area	Findings/conclusions
Lumley, J & Astbury, J. (1989) Advice for pregnancy in, Chalmers et al (eds) *Effective Care in Pregnancy and Childbirth* Vol. 1, Oxford: Oxford University Press. Mayer, J. et al. (1990) A randomised evaluation of smoking cessation interventions for pregnant women at a WIC clinic *AJPH* 80: 76-8. Nowicki, P et al. (1984) Effective smoking intervention during pregnancy *Birth* 11: 217-24. Sexton, M & Hebel, J (1984) A clinical trial of change in maternal smoking and its effects on birthweight *Journal of the American Medical Association* 251: 911-15. Windsor, R. et al. (1985) The effectiveness of smoking cessation methods for smokers in public health maternity clinics *AJPH* 75: 1389-92.	Disadvantaged groups—smoking in pregnancy	• Randomised prevention trials which provided information only about the risks of smoking while pregnant and advice on how to stop had a very limited effect. • Interventions which incorporated behavioural strategies were more effective • Cessation rates were greater among higher SES women compared with low SES women
Nelson, M. (1982) The effect of childbirth preparation on women of different social classes *Journal of Health and Social Behaviour* 23: 339-52.	Disadvantaged groups—uptake of education classes	• The uptake of antenatal classes is lower among lower SES women • Among those who do participate, the effect may be greater than on higher SES women
Rush, D. et al. (1988) The national WIC evaluation, Parts III, IV, & V *American Journal of Clinical Nutrition* 40: 412-28, 429-38, 439-83.	Disadvantaged groups—food and nutrition	• Interventions which combine nutritional advice with dietary supplementation have been found to have the highest impact among groups with the highest risk of adverse pregnancy outcomes

Table 4.1 (cont.) **Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (changing behaviour)**

Studies with a behavioural focus	Intervention area	Findings/conclusions
Baronowski,T. et al. (1990) Dietary change for cardiovascular prevention among black-American families *Health Education Research* 5: 433-43. Bush,P. et al. (1989) Cardiovascular risk factor prevention in black school children *American Journal of Epidemiology* 129: 466-82. Ammerman,A. et al. (1992) Nutrition education for cardiovascular prevention among low income populations *Patient Education and Counseling* 19: 5-18.	Disadvantaged groups—cardiovascular disease prevention	• Interventions which have used intensive dietary education have been effective in improving food selection and eating habits among low-income Americans
James,J. et al. (1989) Preventing iron deficiency in pre-school children by implementing an education and screening programme in inner-city practice *BMJ* 299: 838-40.	Disadvantaged groups—iron deficiency in young children	• Iron deficiency in young children was reduced in an inner-city general practice following antenatal and postnatal dietary education for mothers

4.3.5 Initiatives aimed at strengthening individuals and families

These approaches are concerned primarily with empowering the individual and strengthening key psychosocial attributes. Whitehead describes this body of literature as follows:

> The aim has been to make up perceived deficiencies in knowledge, practical competence or stress management among people experiencing disadvantage, and to encourage the acquisition of personal or social skills to change their way of life or to be more resilient in the face of adversity. These policies see the problem they seek to address mainly in terms of an individual's personal characteristics and the solution in terms of personal education and development[1]

Table 4.2 summarises the findings of studies that have focused on empowering the individual. Many of these interventions are effective, but have been criticised for being patronising and victim blaming if not sensitively handled. One counter measure has been to use non-professionals to provide social support to the project participants.

Despite the fact that studies in Table 4.2 demonstrate improved empowerment and confidence among persons from low SES backgrounds, it is questionable as to whether and to what extent these changes have contributed to narrowing health differentials at the population level. Initiatives directed at changing individuals who are otherwise located within a structural context that is beyond their control are likely to only make a partial (albeit important) contribution to reducing society-wide differentials.

Table 4.2 Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (strengthening individuals)

Studies with an empowerment focus	Intervention area	Findings/conclusions
Parsons, L & Day, S. (1992) Improving obstetric outcomes in ethnic minorities *Journal of Public Health Medicine* 14(2): 193-91. Rocherson, Y & Dickinson, R. (1990) The Asian mother and baby campaign *Health Education Journal* 49: 128-33.	Social support	• These studies provide examples of initiatives which aimed at strengthening social support for individuals in disadvantaged circumstances
Olds, D. et al. (1986) Improving the delivery of pre-natal care and outcomes of pregnancy: randomised trial of nurse home visitation *Paediatrics* 77:16-28. Olds, D. et al. (1988) Improving the life course development of socially disadvantage mothers: a randomised trial of nurse home visitation *AJPH* 78: 1436-45.	Maternal and child health	• Comparison between groups receiving an enhanced program of visits and controls receiving normal screening and care at clinics showed that, among unmarried women living in poverty, those receiving systematic social support returned to school more rapidly after delivery, obtained more help with childcare and had fewer pregnancies over the next four years • In addition, there were fewer cases of child abuse among those at greatest risk
Elbourne, D. et al. (1989) Social and psychological support during pregnancy, In Chalmers I., Enkin M. and Keirse (eds.) (1989) *Effective Care in Pregnancy and Childbirth*, Vol 1, Oxford University Press, Oxford.	Physical health	• Evidence about the effects of social support in pregnancy failed to show significant effects on physical health but did find that women receiving support were less likely to feel unhappy, nervous and worried during pregnancy than controls • Supported women were also happier and more likely to be breastfeeding after birth
Holden, J. et al. (1989) Counselling in a general practice setting: controlled study of health visitor intervention in the treatment of post-natal depression *BMJ* 298: 223-6.	Post-natal depression	• Counselling and social support have been found to assist disadvantaged women recover from post-natal depression

Table 4.2 Summary of studies and findings about interventions aimed at reducing socioeconomic health inequalities at the individual-level (strengthening individuals)

Studies with an empowerment focus	Intervention area	Findings/conclusions
Barker, W & Anderson, R. (1988) *The Child Development Program Evaluation Document No. 9,* Early Childhood Development Unity, University of Bristol. Johnson, Z. et al. (1993) Community mothers' program: randomised control trial of non-professional intervention in parenting *BMJ* 306: 1449-52.	Child development and parenting	• There are a number of initiatives underway in the UK designed to help parents be more self-confident and skilful in their child's development • Initial evaluations have shown improvements in health and home environments for children; these interventions have been criticised as potentially patronising • An adaptation of the program has involved the use of non-professional people to provide support to parents • An evaluation found that mothers reported greater levels of self-esteem

4.3.6 The role of the health care system and its associated services

A number of commentators have acknowledged the important role that the health care system can play in minimising socioeconomic health inequalities. A fundamental principle underpinning the effectiveness of a health care system in this respect is equity. As Townsend notes, 'any inequality in the availability and use of health services in relation to need is in itself socially unjust and requires alleviation'.[27] Examples of the policy goals of health care services that are aimed at reducing health inequalities include:

- ensuring that resources are distributed between local areas in proportion to their relative needs
- responding appropriately to the health care needs of different social groups
- providing universal, publicly funded insurance or tax-based schemes
- taking the lead in encouraging a wider and more strategic approach in developing healthy public policies

Although equity is a central objective of most health care systems, some commentators have suggested that during the 1990s, concerns about equity have been replaced by concerns about finance and expenditures.[19] In the discussion that follows, evidence about the impacts of health sector reform on equitable outcomes will be briefly considered. Specifically, the effects of policies related to the supply of, and demand for, health care will be examined.

Before going into more detail about this, however, we need to digress slightly to consider a related debate about the role of the health care system in 'producing' health. One commentator, for example, has proposed that:

> The available evidence overwhelmingly indicates that most key health producing actions do not come from medical and clinical services, but rather reflect intersectoral activities having to do with sanitation and clean water, nutrition and healthy eating habits, physical exercise, employment, education, housing and so on.[19]

The 'production' of health largely takes place *outside* the health care system and involves actions across a number of sectors.

Other commentators, however, caution against underestimating the potential contribution of the health care system in reducing socioeconomic health inequalities.[28] They point out that the health care system consists of more than the biomedical curative component, and encompasses primary and community care (including home care, public health programs, community development in health, community health centres, disease prevention and health promotion). These components of the health care system have the potential to contribute to reducing socioeconomic health inequalities if there is a redistribution of resources within the health care system in favour of the non-clinical curative components. Recent changes in the health sectors of some developed countries provide evidence about the potential effects of reforms on the ability of the health sector to secure greater equity in population health care.[29]

Health outcomes such as low birthweight, non-communicable disease and nutritional status are affected by upstream social conditions such as employment, housing and education. Reductions of socioeconomic disparities in these outcomes can by achieved by health care systems that provide equitable access.[*2] Saltman presents evidence from a WHO Report on European Health Care Reform[19,29] which is summarised below:

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* See the study by Arblaster *et al.* (1996) which reviews the effectiveness of health service interventions aimed at reducing inequalities in health (Appendix J)

- Health care reforms are more successful (in terms of equity outcomes) when they concentrate on making changes directly in the production of services or in the allocation mechanisms that distribute funds to service providers (i.e. when they focus directly on "supply side" of the health care system).
- The WHO report 'found little to praise' about privatisation. The evidence on privatisation suggests that it has significant and negative equity implications. For example, (i) private provision (as well as increased private financing) is associated with an escalation of costs, (ii) demand from those who are able to pay may skew the health system away from promoting overall health system objectives such as equity and (iii) private-for-profit providers are not obliged to provide care equitably.[2]
- Reforms that seek to restructure individually based demand, especially those that use competitive mechanisms to influence the flow of revenue into the health care system, have not worked very well.
- Structured efforts to ration access to publicly financed health services through such instruments as priority setting seem equally unlikely to produce economically, clinically or socially acceptable results.
- Health care reform should not be the main strategy used to reduce health inequalities. What is required is intersectoral collaboration *and* health care reform. They should be seen as complementary rather than separate strategies to improve equity in health.

We turn now to briefly consider a related issue, namely, health care funding.

Evidence relating to the effects of different methods of health care funding on health inequalities has been reviewed by Saltman.[*19] He summarises research from a European Union study of ten countries[30] which concludes that:

- Tax-based funding is positively correlated with social equity
- Social insurance-based funding is mildly negatively correlated with social equity
- Private insurance and out-of-pocket payments such as co-payments are highly negatively correlated with social equity

This evidence supports claims by others about the re-distributive function of universal health care.[2,28] These commentators acknowledge that there is evidence suggesting that universal health care has disproportionately benefited higher SES groups. However, they also cite evidence showing that withdrawing publicly funded health care has a disproportionately negative impact on lower SES groups. That is, the demand for health care is highly price elastic for the poor - as the price goes up, the demand for health care among the poor drops in greater proportion to the rise in cost .[2,19]

On the basis of this evidence the WHO concluded that:

> Although universal untargeted "free" health care may appear less efficient, it may be more effective, both in reaching the desired population and in maintaining political sustainability/solidarity of pro-poor policies.[2]

[*] See also Babazono & Hillman (1994), Appendix J

4.4 A summary of evidence-based actions to reduce socioeconomic health inequalities

In conclusion, we would like to consider one of the most recent and comprehensive summaries of interventions directed at reducing socioeconomic health inequalities, as a way of summarising the currently available international evidence base.* Gepkins and Gunning-Schepers[31] have summarised the major dimensions of the international intervention literature and evaluated the interventions in terms of their effectiveness.** They conducted a search for evaluation studies of interventions according to possible 'entry points' for intervening. They identified two important characteristics of this literature. First, interventions have not been attempted for all the possible entry points. Second, the majority of interventions have been directed at mid-stream entry points, with the primary focus being either on individual-level health behaviours or the health care system.

Three important types of interventions were identified, namely, structural measures, interventions that took place within the existing health cares system, and health education approaches in the community. Structural measures and health education that involved providing both information and personal support, were identified as the most effective. Gepkins and Gunning-Schepers conclude with the observation that the lack of standardised measures and a common methodology impair our ability to integrate the evaluation literature and compare results, therefore, there is not really enough scientific data upon which to base a comprehensive approach directed at reducing social and health disparities.

Nevertheless, there are some actions, approaches and principles relevant to reducing socioeconomic health inequalities for which a combination of the empirically-and theory-based evidence is at least moderately compelling and these are summarised in Table 4.3

* For further details about evaluating interventions to reduce socioeconomic health inequalities see Mackenbach and Gunning-Scheppers (1997) in Appendix J.

** Gepkins and Gunning-Schepers did not directly address issues relating to macro-level social and economic policies.

Table 4.3 Evidence-based actions to reduce socioeconomic health inequalities

Macro-economic and social policies

- Pursue policies that build up the national health stock through investment in: physical assets (ie. health care system infrastructure, schools, transport systems, housing) and social assets (ie. education, social security, participation in civil society);
- Reduce income differentials and poverty through progressive taxation and the provision of adequate income support for those in poverty (especially families with young children); and
- Reduce unemployment through labour market policies that strengthen the position of those at greatest risk of unemployment (eg. young people).

Living and working conditions

- Implement community development programs in disadvantaged areas that focus on creating supportive community networks; and that have funding to invest in schools, day care centres, recreation and leisure facilities and health services; and
- Implement workplace reforms that enable employees to have greater control and influence over their work and working conditions.

Behavioural risk factors

- Implement behavioural change strategies among disadvantaged groups with an understanding of and sensitivity to the barriers to change that difficult life circumstances can impose; and
- Implement behavioural health promotion among disadvantaged groups that are complemented with support and/or structural change that facilitates the change process.

The health care system

- Maintain a universal non-targeted free health care system;
- Provide a health care system that is publicly funded through taxation;
- Provide an economically, geographically and culturally accessible health care system;
- Redistribute resources within the health care system that support public health and health promotion programs, including good primary and community care programs;
- Focus health care reform on the producers of care and the funding allocation mechanisms that distribute funds to service providers; and
- Implement health care reform and intersectoral collaboration as complementary strategies.

References

1 Whitehead, M. (1995). Tackling inequalities: A review of policy initiatives. In M. Benzeval, K. Judge, & M. Whitehead (Eds.), *Tackling Inequalities in Health: an agenda for action*. (pp. 22-52). London: King's Fund.

2 WHO (World Health Organisation) (1998). *Taskforce on Equity: Key Issues for the World Health Organisation*. Draft Discussion Paper: World Health Organisation.

3 NACHD (National Advisory Committee on Health and Disability.) (1998). *The Social, Cultural and Economic Determinants of Health in New Zealand*. Wellington: NACHD.

4 Andrain, C. (1998*). Public Health Policies and Social Inequality*. New York: New York University Press.

5 Frenk, J. (1994). Consequences of the North American Free Trade Agreement for health services: A perspective from Mexico. *American Journal of Public Health, 84(10),* 1591-1597.

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5 Towards the development of a national SES and health research program

5.1 Introduction

This report has provided a comprehensive overview of Australian research on SES and health. We have outlined some of the important and relevant components of the country's existing research capacity and infrastructure in relation to this significant public health challenge and we have examined Australia's performance in terms of its contribution to the international evidence base. With the burden of disease and illness associated with social and economic disparities being one of the major public health challenges confronting Australia, a strategic approach to SES and health research has much to offer. It is not merely a question of creating a critical mass of Australian research that will make an even greater contribution to an already extensive international evidence base. Rather, developing a critical mass of research expertise in this area will help generate and build the capacity required to develop effective policy initiatives, education campaigns, health promotion programs and other approaches that will make a difference to the health of Australians who live in our most disadvantaged communities and belong to our most disadvantaged groups. Developing solutions and strategies that make a measurable difference to the health of socially and economically disadvantaged Australians will require a research agenda that involves the most active participation of our communities, and which incorporates the best and latest knowledge of those communities and how their health is impacted on by social and economic factors.

In this final chapter we focus on the future, exploring a number of issues that are relevant to the development and implementation of a sustainable research program on SES and health in this country.

5.2 Research gaps: unanswered questions and new directions for health inequalities research

There are many unanswered questions and areas for fruitful investigation in the future.

5.2.1 Description versus explanation

Our review of Australian research identified just over 200 empirical articles that examined to a varying degree the relationship between SES and health. In broad terms, this body of literature can be classified into two categories:

- Descriptive studies. These studies tend to focus on the existence (or otherwise) of socioeconomic health inequalities, the direction and magnitude of the relationship, and trends over time.
- Analytic studies. These focus more explicitly on the question of why SES groups differ in their health and how we can better understand this relationship.

The majority of Australian studies conducted to date fit most easily into the former of these two categories. Similar observations have been made about the international research effort.[1]

Whilst there will always be a continuing need for descriptive studies to provide baseline data and monitor trends over time, health inequalities research needs to adopt a more explicitly analytic approach. We need to understand more fully the factors that link a person's social and economic position with their health status. Without doubt this should be the central thrust and direction of

future health inequalities research. A potentially fruitful line of investigation would be to develop a research program that furthered our understanding of the relationships and linkages that were identified in the framework presented earlier, particularly at the more mid- to upstream levels.

5.2.2 Levels of analysis vs levels of understanding

Evidence about the existence of socioeconomic health inequalities in Australia, as well as our current levels of knowledge and understanding of this relationship, is based primarily (although not exclusively) on the findings of large-scale epidemiological-type studies. This body of research has generally shown that low SES groups in this country experience poorer physical and psychosocial health, and that they are more likely to engage in behaviours and have a risk-factor profile which, in the longer-term at least, are more detrimental for health.

However, in order to establish a research evidence base which can more directly inform and underpin an intervention research agenda, we need to move beyond this 'high' level description and encourage research which seeks to understand the relationships and modifiable determinants and influences that underpin these high level associations. For example, at the highest level we know that low SES groups experience above-average rates of mortality for lung cancer and coronary heart disease (CHD). Moving to a more intermediate level, the evidence indicates that low SES groups are more likely to smoke cigarettes, which presumably makes a significant contribution to their poorer health profile vis-à-vis lung cancer and CHD. Unfortunately, we lack a detailed understanding of the relationship between SES and smoking, for there has been little research in this country that has examined this issue. While there will inevitably be international research which will inform this research agenda, there will be features and influences within the Australian context that need to be studied in their own right. This example just outlined could be applied to most other health behaviours and many other dimensions of the relationship between SES and health.

Future studies must adopt what have been described as multi-level research designs and methodologies that allow us to focus on all the levels of influence that impact on people's everyday lives, including where they live, work, socialise and play. Research and data collection systems that are pitched at collecting data pertaining to a single level of the relationship between SES and health clearly have value in terms of tracking and monitoring progress over time. However, such data by itself will not advance our understanding of SES and health and what can be done to make a difference. In short, we need to approach the problem of socioeconomic health inequalities from a multi-method perspective, using quantitative and qualitative research designs that allow for the collection of data from a range of levels, and which focus on different but complementary aspects of the same issue. Moreover, it is important that as far as possible, the questions being addressed should complement and value-add to the existing international evidence base.

5.2.3 Acknowledging the complexity, diversity and mutability of the relationship between SES and health

As part of a greater emphasis on explanation, future research efforts need to be based on an explicit recognition of the complexity, diversity and mutability of the relationships that comprise the phenomenon known as 'socioeconomic health inequalities'. The international evidence base on SES and health is generally characterised by constancy and consistency. For example, the relationship:

- has been observed in numerous countries;
- has persisted over long periods of time;
- is evident irrespective of how SES is measured;
- is evident for almost all health outcomes irrespective of the measure of health that is used;
- is evident for all age groups;
- is evident for both men and women.

In other respects, however, the relationship between SES and health is characterised by a substantial degree of variability and change. For example:

- whilst the relationship is evident in all countries for which data exists, the magnitude of difference varies between countries;
- whilst inequalities are consistently found irrespective of the measure of SES, the magnitude of difference between socioeconomic groups varies depending on which measure is used;
- whilst the relationship is evident for most major causes of death, the nature and direction of some of these relationships have changed over time. For example, CHD used to be more common among those in higher status groups whereas today the situation has reversed: it is now more common among lower status groups;
- whilst the relationship is evident for infants, children, adolescents, working-aged adults and the retired, the nature and strength of the relationships differ depending on the stage in the life-course; and finally,
- whilst both men and women from low SES groups experience the worst health, the differentials are very often larger and more consistently observed for men than women.

A nationally coordinated research program investigating SES and health will need to be cognisant of these differences and changes over time, for they can form the basis for future research questions, particularly those that might be specific to the Australian national context. For example:

(a) Why are health inequalities larger and more consistently observed for men than women?

(b) Why do socioeconomic health inequalities vary in magnitude across different countries?

(c) Why do the various measures of SES show different patterns and strengths of association with different health outcomes?

Acknowledging the complexity, diversity and mutability of the relationship between SES and health may also be a necessary strategy in terms of improving our knowledge and understanding of the relationship. Three different scenarios are presented in order to demonstrate this point:

- higher rates of accident and injury among minimally educated adolescent males;
- higher rates of low birthweight babies among low income welfare-dependent single mothers;
- higher rates of CHD among employed unskilled males aged 55-65.

Evident in these three scenarios is variability on the basis of age and life-course, gender, measure of SES, employment status, and health indicator. Thus, we are alerted to the likely possibility that there are explanatory factors or aetiological mechanisms and processes that are unique to each of these situations and which, from a life-course perspective, are both distal and proximate to the health outcome. For example, injury and death due to accidents are likely to be a consequence of events occurring within a very short time-frame, and are more likely to occur as a result of the direct impact of material and physical conditions in the wider environment. High rates of coronary heart disease among unskilled males, by contrast, are likely to be due to the cumulative impact of environmental, psychosocial and behavioural factors occurring over many decades, and possibly beginning in infancy, if not even earlier.

There is also, however, consistency in these three scenarios in that the low SES groups in each case fare worst in terms of the particular health outcome. As part of the investigative process, therefore, it seems reasonable that we also search for factors that are common to, and underpin, each of these scenarios.

A large part of the challenge confronting researchers is to identify and disentangle these short and long-term, and unique and common contributors to the poorer health profile of low SES groups.

5.2.4 Taking account of the influence of the environment and settings where individuals live their lives

Most Australian research examining the relationship between SES and health has conceptualised SES as an individual characteristic. Few studies have addressed the relationship between the socio-environmental characteristics of communities and/or places in which people live and the consequent health risks at the individual level. By focusing on SES as a characteristic of the individual, Australian researchers have largely ignored the potential influences of the patterned sets of exposures, resources and opportunities that differ by socioeconomic group.

The few (but increasing) overseas studies that have linked the socioeconomic characteristics of an area with an individual's health status typically find that the socioeconomic properties of the contexts in which people live exert an influence on disease risk.[2,3,4] More importantly, the wider environment exerts an influence on the mortality and morbidity experiences of individuals, independent of the characteristics of the individuals themselves.[5] Further, these studies have shown that socio-environmental factors detrimental to health often cluster together in certain areas, and that risk of disease and death for the individual increases as the number of negative features of the environment increase.[6]

There are at least two reasons why Australian researchers have not investigated the impact of context effects on an individual's health. First, our data collections have mostly been concerned with data about the individual, whereas to study the effects of the environmental context on individual health requires data to be collected from different levels, including in particular, the community, family and individual levels. Second, until recently, statistical techniques that allow for the analysis of multilevel or hierarchically structured data have been unavailable. However, techniques such as Hierarchical Linear Modelling are now readily available to facilitate this type of analysis, although it is probably accurate to suggest that this statistical method remains unfamiliar to most Australian health researchers.

5.2.5 Explaining increasing health inequalities

Epidemiological evidence from most developed countries shows that the health of the population as a whole has been improving over the last few decades. Against this background of improving health for all, however, we have witnessed in some countries,[7,8] including Australia,[9] an increase in health inequalities between socioeconomic groups. Australian (and overseas) researchers have yet to provide an adequate explanation for the coexistence of these two seemingly contradictory trends.

Related to this complex question is the growing body of international evidence which shows that a country's mortality and life expectancy profile is only weakly associated with its average level of income, but strongly related to the degree of income inequality.[10,11,12] Put simply, countries with small income differences between rich and poor tend to have the better health profiles. Whilst the relationship between income inequality and health inequality has been demonstrated in a number of countries, it has yet to be determined whether and to what extent this situation exists in Australia.

5.2.6 The life-course perspective

During the last decade, overseas researchers have begun to address the question of whether factors relating to low SES during early life are associated with the onset of disease in adulthood.[13,14,15,16] These studies have to date produced findings that suggest that:

- an individual's health in adult life is the result of a complex interaction between socioeconomic and biological factors occurring at the beginning of life and then continuing throughout early life;
- an individual's biological and psychosocial development takes place within a social and economic context which structures life chances;
- there are "critical periods" where humans are biologically and socially vulnerable; and
- the effects of biologic insults (e.g. being exposed to the effects of mothers smoking whilst inutero) and social disadvantage accumulate longitudinally.

Whilst the life-course perspective is still in its infancy, and a large number of questions remain to be answered, the approach holds great promise for increasing our understanding of the genesis of socioeconomic health inequalities and their manifestation in adulthood. To our knowledge, few Australian researchers have investigated the relationship between SES and health from this perspective, due in large part (it is assumed) to the absence of suitable longitudinal data. Those studies which are able in some way to address life-course issues, however, are reporting results which also suggest that adult health and well-being are likely to be related to social and economic conditions experienced from very early in life.

5.3 Policies and interventions: the need for a coordinated, programatic approach to an SES and health research agenda

The extent to which the research and development effort is important in underpinning progress in achieving public health gains is often not appreciated. In a recently completed report, the lessons from a number of Australia's public health success stories - cardiovascular disease, trauma due to road and traffic-related accidents, smoking, HIV/AIDS, and cervical cancer – were identified.[17] A strategically-driven and long term research effort over more than ten years was integral to each of these success stories. Moreover, the research effort and directions were underpinned by an understanding of the Australian context. Further, for public health challenges like cervical cancer and traffic and road safety, we have begun to see the development of formalised linkage systems that link investigators, policy makers, funders, and implementers. Such linkages have ensured that appropriate and achievable goals and targets are set, that best practice is developed, identified and disseminated, and that progress is then tracked and monitored. Such a coordinated approach also ensures that investment is directed into appropriate epidemiologic, intervention, diffusion, or policy implementation research, as required. In Australia we have yet to develop a similarly coordinated and integrated approach to tackling socioeconomic health differentials, although the Netherlands provides a possible model upon which to base such an approach (see Appendix K for details).

During the 1990's a number of publications examined in detail policies and interventions to reduce socioeconomic health inequalities, and others focused on evidence about the effectiveness (or otherwise) of these approaches. Some of this material was reviewed in Chapter 4, and additional material was summarised in the annotated bibliography in Appendix J. Although much work remains to be done in this area, we now have in place the beginnings of a body of material that can inform a 'best practice' approach to tackling inequalities in health. Whilst these approaches can (and should) take many varied forms, we argue that the extent of their effectiveness will depend at least in part on the adoption of strategies that are underpinned by *social ecological principles*, that are *targeted* and *inter-sectoral involving community participation*, and that simultaneously focus on *multiple entry points*. Each of these issues is briefly discussed below.

5.3.1 The social ecological approach

A social ecological approach implies a direct relationship between people and their environments[18] which in turn suggests that policies and interventions need to focus on the contexts in which people live and work and how these impact on psychosocial functioning and health-related behaviour. To date, much of the public health intervention effort has been targeted at individual-level behaviour change and the limited effectiveness of this approach in reducing socioeconomic health inequalities was clearly demonstrated by the evidence presented in Chapter 4. For people from low SES or disadvantaged backgrounds, adverse structural factors constrain their ability to make behavioural change. In other words, the context(s) within which people from disadvantaged backgrounds live and work are very important mediating factors in health-related behaviour. This evidence suggests that the individualised 'risk-factor' approach to intervention needs to be contextualised.*

5.3.2 A targeted approach

Public health strategies are very often universal in nature in that they take a 'whole of population' approach and are implemented accordingly. Whilst such approaches have been responsible for marked improvements in the average health of populations, they do not necessarily contribute to a reduction of health inequalities between population subgroups. For this to happen, there is a need to develop policies and interventions that are specifically targeted at low SES groups. These approaches should take into account the structural, material, economic and contextual constraints that shape and circumscribe the lives of persons from low SES backgrounds.

5.3.3 An inter-sectoral approach involving community participation

The material reviewed in Chapter 4 clearly identified the need for research into policies and interventions that incorporate inter-sectoral collaboration and the active participation and involvement of the community. The health of a population and its subgroups is influenced by all sectors, not only the health sector. These include (but are not limited to) education, employment, industry, transport, welfare, taxation and housing. In short, we need to explicitly acknowledge that the health of a nation is closely linked to that nation's structure and organisation.[20] This acknowledgment would seem to represent a necessary first step towards a 'whole of government' approach to population health, and more particularly, it constitutes a necessary step towards the reduction of socioeconomic health inequalities.

5.3.4 A multi-entry approach

In addition to an inter-sectoral approach, there is a need to develop and research policy initiatives and interventions that are implemented simultaneously at the upstream, midstream and downstream levels (see Figure 1.1, Chapter 1). As the available evidence suggests, approaches that exclusively target any one of these levels in isolation from the others are going to be limited in their effectiveness. Mid- and downstream actions to reduce socioeconomic health inequalities need to be supported by complementary measures taken more upstream, and vice versa.

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* Sorensen et al.[19] set out some core ecological principles that may be used in defining operating guidelines for intervention design and implementation at the community level (Appendix L).

5.4 Australia's research capacity and infrastructure to reduce socioeconomic health inequalities

In this report we have argued that it is essential to be explicit about the building blocks and underlying principles of an Australian-based research agenda into SES and health in the context of a burgeoning international effort. Based on the findings of the previous chapters of this report, some of the infrastructure for an Australian R&D program related to SES and health already exists.[21,22,17] The performance of Australian researchers in this area has been impressive by international standards, and there are some well-developed linkages that already exist between key research groups, both within Australia and also internationally.[23,24] There are some very valuable data and information systems which can be used for future work in this area. With the gains made in the research training of public health, social and behavioural science and other researchers, under the Commonwealth's Public Health Education and Research Program and other training initiatives, there is an emerging cohort of researchers who will have the breadth and diversity of disciplinary backgrounds to contribute to a national SES and health R&D program.[24] There is also quite a well developed understanding both nationally and internationally about what the major research questions are and what the major knowledge gaps are.

However, given the complexity and challenge posed by socioeconomic health inequalities, a nationally coordinated and strategic approach to this area is required. Over the last twenty years Australia as a nation has been relatively successful in improving the health of the population overall and in reducing premature mortality from a number of major causes. For some of these public health success stories, such as cardiovascular disease, this has taken a remarkable and sustained effort of research and development, prevention, treatment and rehabilitation which extends back to the years following World War II in the case of smoking. However, these tremendous gains notwithstanding, very consistent evidence accumulated over the past thirty years clearly demonstrates that not all sections of the population have benefited equally from this very substantial national investment. This is most clearly the case for Indigenous Australians, but also for a range of other social and economically disadavantaged Australians.[17]

The authors of this report are encouraged by the current efforts, supported by the Department of Health and Aged Care, to establish a national health inequalities research collaboration. The Interim Reference Group assessing the feasibility of the collaboration has found broad support for their proposal from a wide range of researchers, decision makers and public health practitioners. We endorse the directions that the collaboration is taking, in particular the adoption of an interdisciplinary approach, a focus on contexts, a settings and lifecourse perspective, and of formulating a mechanism that links research to policy. We support any research that moves beyond description to the analysis of the relationship between socioeconomic status and health, and that builds capacity for judging the merit of interventions designed to address health inequalities. The proposed national collaboration is a worthwhile initiative in the quest to eliminate health inequalities, but will only be sustainable if it receives broad community and public sector support. In this document the collaboration has a valuable baseline by which to measure its progress over the coming years.

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Appendix I

Institutions identified as contributing to Australia's research effort into SES and health

Institution

Adelaide Children's Hospital, Child and Adolescent Mental Health Service
Anti-Cancer Council of Victoria
Australian Bureau of Census and Statistics (Hobart)
Australian Capital Territory Health Service
Australian Institute of Family Studies
Australian Institute of Health and Welfare
Australian Institute for Suicide Research and Prevention (Brisbane)
Australian National University, Department of Demography
Australian National University, Department of Sociology
Australian National University, National Centre for Epidemiology and Population Health
Australian National University, NH&MRC Psychiatric Epidemiology Research Centre
Australian National University, NH&MRC Social Psychiatry Research Unit
Australian National University, Research School of Social Sciences
BHP Medical Centre (Melbourne), Department of Occupational Medicine
Centers for Disease Control and Prevention (USA), National Center for Injury Prevention and Control
Charles Sturt University, School of Social Sciences and Liberal Studies
Chiang Mai University (Thailand), Faculty of Medicine
Child Health Services (Western Australia)
Child, Adolescent and Family Health Service (Adelaide), Magarey Institute
Commonwealth Department of Health (Australian Capital Territory)
CSIRO Division of Human Nutrition (Adelaide)
Curtin University of Technology, Department of Epidemiology and Biostatistics
Deakin University, Department of Human Nutrition
Department of Human Services and Health (Australian Capital Territory), AIDS/Communicable Diseases Branch
Department of Youth and Community Services (New South Wales)
Family Planning Association of Queensland
Flinders University, Department of Public Health
Health Commission of New South Wales, Division of Epidemiology
Health Commission of Victoria
Health Department of Victoria, Dental Health Services Branch
Hillcrest Psychiatric Hospital (Adelaide)
Hornsby Ku-ring-gai Hospital (New South Wales), Northern Sydney Area Public Health Unit
Injury Research Project (Melbourne)
Mental Health Research Institute (Victoria)
Monash University, Centre for the Study of Mother's and Children's Health
Monash University, Department of Geography
Monash University, Department of Obstetrics and Gynaecology

Monash University, Department of Paediatrics
Monash University, Department of Psychology
Monash University, Department of Social and Preventive Medicine
National Heart Foundation (Western Australia)
National Health Strategy
New South Wales Cancer Council, New South Wales Central Cancer Registry
Prince of Wales Children's Hospital (New South Wales)
Princess Margaret Children's Medical Research Foundation (Perth)
Queensland University of Technology, School of Public Health
Royal Alexandra Hospital for Children (Sydney), Community Paediatric Unit
Royal Australian College of General Practitioners (New South Wales), General Practice and Primary Care Research Unit
Royal Children's Hospital (Brisbane), Department of Child Health
Royal Children's Hospital (Melbourne), Department of Paediatrics
Royal Children's Hospital (Melbourne), Clinical Epidemiology and Biostatistics Unit
Royal North Shore Hospital (New South Wales), Department of Medicine
Royal Prince Alfred Hospital (Sydney)
Royal Women's Hospital (Victoria)
South Australian Health Commission
South Australian Health Commission, Epidemiology Branch
South Australian Health Commission, Public and Environmental Health Division
South Australian School Dental Service
South Coast Regional Health Authority (Queensland), Community Health Services
St George Hospital (New South Wales), Department of Surgery
Sydney Hospital, Sydney Sexual Health Centre
University of Aberdeen (Scotland), Department of Public Health
University of Adelaide, Department of Community Medicine
University of Adelaide, Department of Dentistry
University of Adelaide, Department of Obstetrics and Gynaecology
University of Adelaide, Department of Psychiatry
University of Melbourne, Centre for Adolescent Health
University of Melbourne, Department of Ophthalmology
University of Melbourne, Department of Paediatrics
University of Melbourne, Department of Public Health and Community Medicine
University of Melbourne, School of Behavioural Science
University of Melbourne, School of Dental Science
University of Melbourne, Statistical Consulting Centre
University of New South Wales, Department of Medicine
University of New South Wales, Department of Social Work
University of New South Wales, Department of Sociology
University of New South Wales, School of Geography
University of New South Wales, School of Health Services Management
University of New South Wales, School of Medical Education
University of New South Wales, Social Policy Research Centre
University of Newcastle, Centre for Clinical Epidemiology and Biostatistics
University of Newcastle, Department of Statistics
University of Newcastle, Faculty of Education
University of Newcastle, Faculty of Mathematics
University of Newcastle, Faculty of Medicine
University of Newcastle, Faculty of Medicine and Health Sciences

University of North Carolina (USA), Department of Dental Ecology
University of Otego (New Zealand), Community Studies Development Unit
University of Queensland, Department of Anthropology and Sociology
University of Queensland, Department of Child Health
University of Queensland, Department of Obstetrics and Gynaecology
University of Queensland, Department of Psychiatry
University of Queensland, Department of Social and Preventive Medicine
University of Queensland, Faculty of Medicine
University of Queensland, Mater Children's Hospital Paediatric Unit
University of Sydney, Department of Community Medicine
University of Sydney, Department of Ophthamology
University of Sydney, Department of Psychological Medicine
University of Sydney, Department of Public Health and Community Medicine
University of Sydney, Faculty of Education
University of Sydney, Faculty of Health Sciences
University of Sydney, Faculty of Medicine
University of Tasmania, Biochemistry Department
University of Tasmania, Department of Obstetrics and Gynaecology
University of Tasmania, School of Pharmacy
University of Western Australia, Department of Medicine
University of Western Australia, Department of Paediatrics
University of Western Australia, Department of Psychiatry and Behavioural Science
University of Western Australia, Department of Public Health
University of Western Australia, Department of Surgery
University of Western Australia, Royal Perth Hospital Department of Medicine and Western Australian Heart Research Institute
University of Western Australia, Women and Infants Research Foundation
Westmead Hospital (New South Wales), Department of Virology
Women's and Children's Hospital (North Adelaide), Ambulatory Paediatric Services

Appendix J

Annotated bibliography of selected references relating to policies and interventions to reduce socioeconomic health inequalities

Acheson, D. (1998) *Independent Inquiry into Inequalities in Health*. London: Stationery Office.

Adopted Whitehead's (1995) model of determinants of health.

Socioeconomic inequalities represent differential exposure to risks associated with socioeconomic position. The inquiry recommends that intervention needs to occur on a broad front. A broad approach reflects scientific evidence that health inequalities are the outcome of causal chains that run back into and from the basic structure of society. This approach is also necessary because many of the factors are interrelated. Interventions are less likely to be effective if the focus is solely on one point and if complementary action is not in place which influences a linked factor in another policy area.

Policies need to be both upstream and downstream.

Andrain, C. (1998). *Public Health Policies and Social Inequality*. New York: New York University Press.

A comprehensive political and economic analysis of eight nations and public health policies. Part I describes three 'models' of health care systems: the entrepreneurial model (United States), the organic corporatist model (Germany), the social democratic model (Sweden). Part II provides three theories of public health programs: political culture, political power and rational choice. Part III evaluates health policies and outcomes and begins with a theory of social opportunity and discusses social stratification and determinants of health at macro and micro levels. Evaluates impact of public policies on health including: income inequality, workplace and housing, individual attitudes (psychosocial) and lifestyles, access to health for mothers and infants. Overall very comprehensive, deals with global forces and macro issues and evaluates policies that impact on health.

Arblaster, L., Lambert, M., Entwistle, V., Forster, M., Fullerton, D., Sheldon, T., & Watt, I. (1996). A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research and Policy*, *1(2)*, 93-103.

Reviews the available evidence in order to identify effective interventions which health services alone or in collaboration with other agencies could use to reduce inequalities in health. Only studies with an experimental design were included (n=94 + 21 reviews). The health categories considered include: accidents; cancers; coronary heart disease/stroke; sexual health and mental illness; pregnancy and childbirth. The main inequalities considered are those related to SES, age and ethnicity.

The interventions considered here fall into two categories:

1. Entry-point strategies, namely, those that target effective health services or interventions at groups with the greatest health needs.

2. Those targeted at risk factors.

Summary of reviews assessing effectiveness of health care interventions

Accidents: Prevention in children and adolescents, inconclusive evidence about effectiveness among lower SES

Cancers: Interventions can be successfully carried out to reduce the incidence of smoking in deprived groups. Prompts and incentives improved attendance for follow-up appointments after women living in a deprived urban community received an abnormal smear result.

CHD/Stroke: No evidence reported relating to reducing SES inequalities

Sexual health, HIV/AIDS and preventing teenage pregnancy: No evidence reported relating to reducing SES inequalities

Mental Health: Is more profoundly affected by SES factors than many other dimensions of health. Few good evaluations of interventions aimed at improving mental health in deprived populations were identified.

Pregnancy and Childbirth: For those on low income, close association between lack of support for health care costs and low uptake of health care services. Social support, especially for socially disadvantaged mothers can reduce likelihood of adverse outcomes for the baby, including: child abuse/neglect, severe nappy rash, middle ear infection, high blood pressure and delayed immunisation. Also, supported mothers are less likely to become pregnant again in the 18 months following childbirth. However, a review of eight randomised control trials found that social support for at-risk pregnant women was not associated with improvements in any medical outcomes of pregnancy.

Characteristics of successful interventions aimed at improving the health of disadvantaged groups

Intensive approaches: vigorous or intensive approaches have been shown to improve the identification and subsequent effective treatment of individuals, especially from deprived populations. However, the evidence is not clear, there is research which shows that intensive approaches do not necessarily work.

Community commitment: only focusing on the individual ignores the fundamental structural determinants of social behaviour, thus an emphasis on ensuring the community in which the intervention was taking place was important.

Multi-disciplinary approaches: a number of agencies involved in the intervention can facilitate the adoption of different strategies e.g. the development of improved information systems and harnessing more resources.

Multifaceted interventions: several successful programs employed a combination of interventions to improve the health of deprived populations e.g. combining education and legislation more effective than education alone.

The importance of the agent delivering the intervention: the people who deliver the intervention may be as important as the intervention and its setting e.g. several successful interventions carried out by volunteers recruited from target population and trained to perform the task.

Others: Provisions of material support and resources e.g. provision of prompts and reminders to attend services, developing skills.

Discussion

Only a few of the evaluations reviewed were of good quality and a number of common but avoidable problems with the design and execution of the studies were identified:

- limited description of the nature and content of the interventions used
- sample sizes often too small
- many evaluations conducted without any attempt to identify a control group
- when a control group was identified, many failed to carry out and/or report baseline measurements
- follow-up periods too short for value of intervention to be assessed

Thus care must be taken not to over analyse the study results in an attempt to extract lessons for practice.

Two population-wide programs in the USA designed to tackle the effects of poverty on growth, development and education have been extensively evaluated.

1. The Special Supplemental Food Program for Women, Infants and Children (WIC), initiated in 1972 to improve the nutrition of low-income women and children. Evaluation of this program showed a statistically significant correlation between intensity of WIC service and health-related outcomes such as mean birthweight and late foetal death.
2. Project Head Start begun in 1965. Evaluations show short-and long-term benefits on cognitive and health-related outcomes

Characteristics common to both include intensity or targeting of those in need and a broad, multidisciplinary perspective including social services, nutrition and health-related interventions.

Conclusions

This review focused on interventions which health services can implement alone or with other agencies. Since it is likely that non-health service factors contribute most to health inequalities, they are likely to have a crucial role to play in the reduction of inequalities in health. Strategies available range from social and economic policy aimed at addressing fundamental inequalities in society, to health care interventions which essentially leave intact the system that generates the inequalities.

The relative effectiveness and efficiency of different approaches is an empirical question that requires more research. In the absence of comprehensive empirical evidence, the ultimate choice of strategy is political.

Babazono, A., & Hillman, A. L. (1994). A comparison of international health outcomes and health care spending. *International Journal of Technology Assessment in Health Care, 10(3)*, 376-381.

Objective: Does increased spending improve health outcomes? 1988 data from OECD countries were analysed to determine how key health care indexes correlate with health care outcomes.

Findings: Total health care spending per capita and outpatient and inpatient utilisation are not related to health outcomes.

Why?

1. Health care resources are not the only factor predicting health outcomes; health outcomes are affected by both health care resources and non-health care resources. Since available resources are limited, other investments, (such as education and housing) may suffer if too much is spent

on health care. Moreover, the marginal benefit of health care spending decreases as more is spent on health care.

2. The effectiveness of medical services is determined not only by how much total money is actually spent but also how those resources are allocated. For example, in the US 37 million uninsured citizens have a higher mortality rate than those who are insured.

Conclusion: How health care spending is balanced with non-health care spending and how health resources are allocated are more important predictors of health outcomes than how much is actually spent.

Dahlgren, G., & Diderichsen, F. (1986). Strategies for equity in health: report from Sweden. *International Journal of Health Services, 16(4)*, 517-537.

In recent years, the Swedish debate on health policy has been focusing on resource allocation between primary care versus secondary care, private care versus public care, and prevention versus care. The National Commission on the "Swedish Health Services in the 1990's" brought attention to the prevailing inequalities in health. The Health Policy Bill of 1985 defines the reduction of inequalities in health as a major target of national health policy. The health policy measures discussed are mainly outside the health care sector.

Dahlgren, G., & Whitehead, M. (1992) *Policies and Strategies to Promote Equity in Health*. Copenhagan: WHO.

Part one

Framework for policy-making:

The framework is based on causes of inequities in health i.e. those that are avoidable and unacceptable, including:

1. Factors associated with economic resources and the physical and social environment in which people live and work
2. Risk factors associated with personal behaviour (lifestyle)
3. Health care - poorer provision, uptake and quality of essential services in communities with greatest need
4. Downward social mobility of sick people

Policies that address inequities in health could be aimed at one of three goals:

1. Tackle causes of inequities by reducing level of risk factors and health hazards (or prevent them from occurring in the future)
2. Minimise health damage caused by risk factors by helping people to cope better with risks they face
3. Make sure the quality and volume of health care match the increased volume and complexity of ill health found in communities or groups facing excessive risks and hazards

1. Information systems often not geared to identifying social groups at potential risk, and to monitor health status over time. An ongoing research strategy may be required to give greater insight into causes of health inequalities
2. Selecting a starting point after research reviewed, priorities decided, and points of intervention identified. Three possible starting points:

- Disease approach
- Risk factor approach
- Entry point approach: identify social or occupational groups at risk

All these approaches may be used simultaneously

3. Organisation and Management: structures for implementing public health policies to promote equity in health are almost non-existent in most countries. Lack of management and structural initiatives are barriers to the development of equity policy. Epidemiologic surveys and analysis of health problems are loosely (if at all) linked to those agencies able to initiate specific actions. Some countries are beginning to deal with these issues. For example, in 1991 the Swedish parliament passed a bill requiring all national public agencies and authorities to report to parliament on specific goals to reduce socioeconomic health inequalities, and to analyse the health impact of all national policies. An institute for Public Health was set up to develop policies to improve health-related conditions for the disadvantages
4. Securing Financial Resources: new ways of generating finances - Sweden set up a special fund by levying a short-term tax.
5. Monitoring and Evaluation: set targets for improvement. These could be *differential* targets for selected groups, or, *action* targets, e.g. alterations to tax and benefits systems, improvement in housing, pollution control

Part 2

Examines some of the key determinants of health inequalities, specifically, factors in the physical and social environment, barriers related to personal lifestyles, and factors related to health care. For each category, the nature of the problem is considered from the point of view of equity and the policy implications are then outlined, with examples given of strategies that have been put into effect in various European settings.

Erikson, R. (1992). Social policy and inequality in health: considerations from the Swedish experience. *International Journal of Health Sciences, 3(3/4)*, 215-222.

Social policy in Sweden focuses more on welfare inequalities than on poverty. Welfare is understood as multidimensional incorporating income, housing, employment and conditions at work, social relations, health, knowledge and skills. The Swedish ‘level of living’ study has demonstrated that welfare is unequally distributed (but less so than in other countries). Social policy might have contributed to a more equal distribution of welfare, but there is no evidence proving such a link. The goal of health equity is discussed.

Gepkins, A., & Gunning-Schepers, L. J. (1996). Interventions to reduce socioeconomic health differences: a review of the international literature. *European Journal of Public Health*, *6(3)*, 218-226.

Objective

To review information on evaluated interventions to reduce socioeconomic health differences and to examine studies to identify possible conditions for success.

Methods

Literature search yielded 98 publications and 31 ‘grey’ literature reports.

Findings

Many of the interventions described are reported to be effective. Structural measures appear to be most effective, but cannot be taken to affect all determinants. Interventions involving health education only appear to be successful if providing information is combined with personal support or structural measures. Many very creative interventions to reduce socioeconomic health inequalities have been reported, and several appear to be effective. But all address only a small aspect of health inequalities. The lack of standardised measures and a common methodology impair our ability to integrate and compare results.

Link, B., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior*, *(Extra Issue)*, 80-94.

Epidemiological studies have been enormously successful in identifying risk factors for major diseases. However, most of this research has focused attention on risk factors that are relatively proximal causes of disease. The authors question the emphasis on such individually-based risk factors and argue that greater attention must be paid to basic social conditions if health reform is to have maximum impact. Two reasons are provided for this claim. First, individually-based risk factors must be contextualised, i.e. what puts people at risk of risks. Second, social factors such as SES and social support are likely "fundamental causes" of disease because they embody access to important resources, affect multiple disease outcomes through multiple mechanisms, and consequently maintain an association with disease even when intervening mechanisms change. Without careful attention to these possibilities, we run the risk of:

1. Imposing individually-based intervention strategies that are ineffective
2. Missing opportunities to adopt broad-based societal interventions that could produce substantial health benefits.

Mackenbach, J. P. (1994). Socioeconomic inequalities in health in the Netherlands: impact of a five year research programme. *British Medical Journal*, *309*, 1487-1491.

The attention paid to socioeconomic health inequalities in the Netherlands has increased greatly in recent years. A national research program was started in 1989, and among other things, has increased the yearly number of publications on SES and health by about 25%. The program has also increased awareness of inequalities among researchers and policy makers as well as improved the information available on health inequalities and the reasons for them. Cross party agreement on the need to reduce these inequalities has led to a consensus-based approach that contrasts with the heavily politicised debate in countries such as the United Kingdom.

Mackenbach, J. P., & Gunning-Schepers, L. J. (1997). How should interventions to reduce inequalities in health be evaluated. *Journal of Epidemiology and Community Health*, *51*, 359-364.

Objective

The effectiveness of interventions that have been proposed or are currently in progress to reduce socio-economic inequalities in health is largely unknown. This paper aims to develop guidelines for evaluating these interventions. Authors distinguish between the evaluation of specific interventions and the evaluation of broader policies.

Specific interventions lend themselves more easily to manipulation in an experimental design, thus classic study designs such as randomised control trials (RCT) and community intervention trial (CIT) will be able to be used. This paper focuses on the evaluation of specific interventions.

Approach

Starting from a set of general guidelines recently proposed by a group of experts reporting to the National Programme Committee on Socio-economic Inequalities in Health in the Netherlands, an analysis was made of the appropriateness of different study designs which could be used to assess the effectiveness of interventions to reduce inequalities in health.

Results

A "full" study design requires the measurement, in one or more experimental populations and one or more control populations, of changes over time in the magnitude of socioeconomic inequalities in health. This will usually imply a community intervention trial. Five alternative study designs are distinguished which require less complex measurements but also require more assumptions to be made. Several examples are given.

Conclusions

Building up a systematic knowledge base on the effectiveness of interventions to reduce socioeconomic inequalities in health will be a major enterprise. Elements of a strategy to increase learning speed are discussed. Although the guidelines and design recommendations developed in this paper apply to the evaluation of specific interventions where rigorous evaluation methods can often be used, they may also be useful for the interpretation of the results of less rigorous evaluation studies, for example of broader policies to reduce socioeconomic inequalities in health.

National Advisory Committee on Health and Disability (1998). *The Social, Cultural and Economic Determinants of Health in New Zealand*. Wellington: National Advisory Committee on Health and Disability.

Framework

Four areas for possible policy interventions:

- Underlying social and economic determinants
- Factors that are intermediate between socioeconomic determinants and health
- The effect of ill health on socioeconomic position
- Health and disability support services

Reviews of evidence for effective interventions

Reviews of interventions have found that structural measures appeared to be effective most often - structural interventions were mostly directed towards improving financial accessibility of health and support services. Health education strategies focusing on behavioural risk factors are of limited effectiveness unless combined with personal support or structural measures. There is a paucity of evidence about the health impact of broader social or economic policies, or of the effectiveness of population-based health measures.

Characteristics of interventions that were successful at reducing inequalities:

- Improving access to health services, appointment of a patient navigator to assist at-risk groups with personal, medical and social problems they encounter in the health care system. Provision of cervical cancer screening and breast examination by nurses during routine visits to low income women
- Planned, systematic and intensive approaches to delivering effective interventions
- Prompts to encourage use of services
- A multifaceted approach which involves a combination of strategies
- Inter-agency collaboration
- Ensuring that interventions address the expressed or identified needs of the target population
- Development of skills in target groups
- Involvement of peers in the delivery of interventions

There is evidence that health promotion programs may produce limited changes in risk factors and population mortality in the absence of a wider strategy to address socioeconomic factors

Poland, B., Coburn, D., Robertson, A., & Eakin, J. (1998). Wealth equity and health care: a critique of a "population health" perspective on the determinants of health. *Social Science and Medicine*, *46(7)*, 785-798.

Examines the concept of 'population health' and critiques it from a political economy perspective. Argues that the population health perspective lacks an explicit theory of society and of social change and provides a convenient cover for those who wish to dismantle the welfare state in the name of deficit reduction. The alternative view stresses that the factors 'producing' health status are contained within a larger context (i.e. advanced industrial capitalism). They suggest alternative policy avenues, critique economic rationalist policies and examine the likely effects of globalisation.

Roemer, M. I., & Roemer, J. E. (1982). The social consequences of free trade in health care: a public health response to orthodox economics. *International Journal of Health Services*, *12(1)*, 111-129.

In recent years, difficulties in U.S. health services have been ascribed to excessive government intervention and regulation. High costs and other problems would be solved, it is argued, by "return to the free market and competition". Examination of the past operations of free trade and competition in health care, however, shows that in this market not one of at least five conditions necessary for effective competition exists. Numerous adjustments made by society reflect the problems caused by these market deficiencies (such as seriously inadequate information or the presence of major social "externalities"). Furthermore, even these adjustments - such as medical ethics or health insurance - have generated serious secondary problems. Many types of waste and social inequity also persist, in spite of all the attempts to compensate for market failure. In effect, the so-called free market in health care has survived only because of the extensive regulations and other actions taken to patch it up. Abandoning these adjustments would further aggravate current problems. Only replacement of free trade by systematic social planning could hope to achieve a health care system that allocates resources and distributes services both efficiently and equitably.

Saltman, R. B. (1997). Equity and distributive justice in European health care reform. *International Journal of Health Services*, *27(3)*, 443-453.

Equity is a central objective of most European health care systems, yet equity, particularly in the form of distributive justice, has not been a central objective of many recent health sector reforms. This article considers three aspects of the relationship between equity and recent health reforms. After defining what is meant by equity in the health sector, the author briefly examines available evidence on present levels of equality then discusses the equity implications of ongoing reforms in European health care systems.

Saltman, R. B., & Figueras, J. (1997). *European Health Care Reform*. Anonymous. Copenhagen: WHO European Regional Office.

Many governments in the WHO European Region are reviewing their health care systems and the suitability of their existing approaches to financing, organising and delivering health care services. This report provides a broad overview of the health and health sector challenges faced by policy-makers in the European Region in the second half of the 1990's, and reviews the available evidence on the impact of key reform strategies. The study's findings are based on over 30 background papers written by a team of scholars from all parts of Europe, Canada, the World Bank and WHO.

World Health Organisation. (1998) *Taskforce on Equity: Key Issues for the World Health Organisation.* Draft Discussion Paper: World Health Organisation.

Framework

Addressing issues of equity in health requires looking at a hierarchy of approaches, from up-stream broad socio-economic and cultural influences on health, to health systems policies. Defining outcome measures for success will always be easier for specific interventions than broad policies; but observation of time trends and historical evidence can effectively explore causal relationships between major new policies and a reduction (or increase) in socio-economic inequalities in health.

Macroeconomics, redistributive policies and equity

Attributing causation between macro-economic policies and change in equity in health can be problematic, due to the complexity of linkages between variables and indirect influences. The relationships between absolute and relative poverty, income inequality and health still require elaboration. In addition, most studies looking at the effects on health use aggregate data which may have different effects on different sections of the economy/society. In the US, where income inequalities have risen markedly since mid-70s, differences in death rates between black and white men are wide and increasing; evidence suggests SES is the major contributor

Health systems and equity

Persisting health inequalities in developed countries show that relatively equitable health care systems alone cannot counter-act inequities in other determinants of health, such as income and education inequalities.

There are three key elements important in assessing equity in health systems:

- Progressive financing and equitable resource allocation within the health system
- Universal entitlement/universal access
- Quality of health services

Financing of health systems

The better-off utilise more frequently than the poor. The key goals of comprehensive coverage, universal access to benefits, financial efficacy and accountability are closely met in the ideal progressive tax-based health system. Cost recovery aimed at increasing resources for health and improving efficiency has been introduced in many countries that were primarily tax-financed. Evidence to date suggests that this is highly regressive in its impact on the poor, especially, women and children. Demand for health care has been shown to be highly price elastic for the poor, e.g. one study showed a proportionately greater drop in use by subgroups (the poor, infants and children) for a given price increase. Targeting health care is administratively difficult and costly

Although universal untargeted free health care may appear less efficient, it may be more effective, both in reaching the desired population and in maintaining political sustainability/ solidarity of pro-poor policies

Income and income distribution

Overall population health status has an effect on the economy as well as that of the economy on health - attributing causation can be problematic. The relationships between absolute and relative poverty, income inequalities and health still require elaboration.

Studies suggest that economies with very unequal income distributions have generally grown at a slower rate. A highly unequal income distribution makes it harder to reduce poverty; reducing inequality in income will increase the numbers who benefit from the same average rate of growth.

Social policy—education, employment, taxation

Public health spending is more important than average income growth in its impact on mortality. Poverty reduction in itself leads to growth; growth contributed to only about half of the poverty reduction in the countries examined, the rest being dependent on social policy measures.

Discussion

Equity in health is clearly an issue intimately related to human development. Health systems can have only a limited impact when other major determinants of health remain unchanged. There are countries where despite negative economic growth, health indicators have continued to improve. The evidence of linkages between absolute and relative poverty and health suggests that where there is increasing poverty or widening income inequalities, reasonable conclusions can be drawn about the relationship with health outcomes. The average health status of any country is disproportionately influenced by the relatively strong effect of poverty on the health of its poorest citizens i.e. if a policy has a disproportionately greater negative impact on the poor, it will also likely disproportionately affect average health outcomes. However, analysis of the links between macroeconomics and health requires sufficient disaggregation of data to allow the impact of such policies on different population sub-groups. The association between growth in *average* incomes and changes in income mortality is not direct. The initial underlying income distribution and the pattern of growth are both significant.

Economic growth in itself does not improve equity, and conversely, equity policies can be reserved even when there is little economic growth. Mean income growth with *increasing* inequality represents lost opportunities for poverty reduction, and can harm further prospects for growth.

Protection and promotion of basic social services, housing and poverty alleviation strategies need to be considered if health outcomes are to be protected.

The impact of health sector reforms, especially those which directly or indirectly strengthen the private sector, have significant equity implications:

- Empirical evidence shows that private provision (as well as increased private financing) is associated with escalation of costs

- Asian experience has shown that demand from those who are able to pay may skew the health system away from promoting overall health system objectives such as equity
- Generally, user fees and insurance are associated with more regressive funding
- Private-for-profit providers do not have any obligation to equitably provide care

The improvements in health and equity achieved both in industrialised and developing countries have not been inevitable - they resulted from improvements in the key determinants of health, including working conditions, nutrition, housing, health systems and education. These were not agentless or an inevitable consequence of market capitalism. The political struggle involving public health advocates, trade unions and women's movements was crucial in securing basic conditions.

Tsouros, D. (1991). *World Health Organisation Health Cities Project.* Anonymous. Copenhagen: WHO Regional Office for Europe.

The WHO Healthy Cities Project is a long-term development project that seeks to put health on the agenda of decision-makers in the cities of Europe and to build a strong lobby for public health at the local level. The project was initiated in 1985 and has grown to include 30 project cities in Europe and 17 national networks. It has become an international movement involving more than 400 cities in Europe, North America and Australia. This report provides an assessment of the progress and achievements of the project up to 1990.

Whitehead, M. (1995). Tackling inequalities: A review of policy initiatives. In M. Benzeval, K. Judge, & M. Whitehead (Eds.), *Tackling Inequalities in Health: An agenda for action.* London: King's Fund.

Framework

Four layers of influence (apart from age, sex and hereditary factors):

- Individual lifestyle factors
- Social and community influences
- Living and working conditions
- General socioeconomic, cultural and environmental conditions

Policy responses

Searches of the literature for evaluated interventions tackling inequalities in health reveal that there are four main policy levels of intervention:

- Strengthening individuals
- Strengthening communities
- Improving access to essential facilities and services
- Encouraging macroeconomic and cultural change

1. Policies that attempt to strengthen individuals aim to change peoples' behaviour or coping skills through personal education and/or empowerment. General health education messages have had a limited impact on people from disadvantaged backgrounds because the pressures of their lives constrain the scope for behaviour change. However, more sensitive interventions that combine education and support can have a positive effect on the health of the disadvantaged, if they are carefully tailored to their needs and combine with action at other policy levels.

2. Policies that aim to strengthen communities have either focused on strengthening their social networks or they have adopted a broader strategy that develops the physical, economic and social structures of an area. Such initiatives can, through involving the community itself in the determination of priorities, change the local environment, services and support systems in ways that promote equity in health.
3. Despite some successes, efforts to strengthen individuals and communities have had a minimal impact on reducing inequalities in health. They have tended to treat the symptoms rather than underlying causes of the problem, plus many interventions have been discrete experiments or projects involving relatively few individuals and neighbourhoods - thus their overall impact can only have been minimal. The challenge is to make the effective approaches more widespread, part of the mainstream services offered to people.
4. A key finding is that some strategies have the potential for long-term impact – e.g. studies of social support for pregnant teenagers. Early education of preschool children from disadvantaged backgrounds, suggests far-reaching effects on school drop-out rates, arrest rates, entry into further education, and teenage pregnancy rates. However, because of the difficulty of evaluating effects over these long time periods, all these findings are tentative and require further confirmation.
5. Improvements in day-to-day living and working conditions and access to services have been shown to be beneficial for the health of populations. Initiatives at this level include some of the classic public health measures to improve access to adequate housing, sanitation, clean food, safer workplaces and health and welfare services.
6. Experience with policies at level 4, to bring about macroeconomic and cultural changes, shows the importance of looking at the distributional effects of policies as well as their aggregate impact. That is, for rich countries the degree of inequality in income distribution seems to be very important for explaining the rate of infant mortality. Economic and welfare policies during the 70s and 80s have resulted in widening differentials in income between the well-off and the poor, followed by a widening gap in life expectancy (in the USA). As yet, evidence for this is only suggestive, but points to areas for urgent study
7. Economic policies that have protected or improved the standard of living of the poor have shown beneficial health effects, large enough sometimes to be reflected in health statistics for the whole population. This evidence suggests some key policies:

- Income maintenance policies that provide adequate financial support for people who fall into poverty,
- Education and training policies that help prevent poverty in the long term,
- More equitable taxation and income distribution policies.

When considering policy options at the 4 levels, not only do the inter-relationships between them stand out, but also a need for more *strategic* approaches incorporating actions across sectors and at various levels.

More strategic approaches

A strategic approach is crucially important for tackling health inequalities because the differentials are caused by inter-related social and economic factors. Two examples at the national level are the Netherlands and Sweden.

Whitehead, M., & Dahlgren, G. (1991). What can be done about inequalities in health? *The Lancet*, *338*, 1059-1063.

Three general observations can be made about the various responses from different parts of Europe.

1. In a number of countries, inequality in health has changed from a political non-issue in the 60s & 70s, to one occupying centre stage
2. Where action has taken place it starts with small manageable problems, rather than a comprehensive, coordinated plan.
3. Initiatives have been taken at different levels, success often entails cooperative action across sectors

Such initiatives show that something can be done about socioeconomic health inequalities, but there is no blueprint. Effective policy has to be tailored to suit the systems operating in a particular country or district.

National and local health strategies would be more efficient and more likely to achieve their targets if more attention were paid to the issue of equity. The gains could be even greater if efforts at different levels and in different sectors were coordinated into soundly based national policies.

Appendix K

A strategic approach to reducing socioeconomic health inequalities

The Netherlands as a case study

This section summarises a paper that provides an overview of achievements in the Netherlands in the area of socioeconomic health inequalities.[1] In 1986, the Dutch government adopted the *Health For All* policy targets of the World Health Organisation. This was followed by a conference in 1987, convened by the Scientific Council for Government Policy. The proceedings were published and contained a proposal for a national research program which was launched in 1989. The main objectives of that program were to generate more knowledge about the size and nature of socioeconomic inequalities in health and the reasons for them. Some of the outcomes of the program include:

- 40 studies were commissioned, most of which were small scale secondary analyses of data collected in epidemiologic studies
- investments were made to improve conditions for future research
- a standardised procedure for measuring socioeconomic status on the bases of education, occupation or income was developed
- a computerised method for collecting this information from respondents was developed
- a documentation centre was established to monitor the scientific literature on socioeconomic health inequalities (in the Netherlands and internationally)

The Scientific Council convened a second conference in 1991. Attendees included representatives from most political parties and relevant ministries, health care organisations and the medical professions. Since that conference, several policy initiatives have been taken at the national, regional and local levels.

National

- an intersectoral working group was formed to stimulate cooperation between various ministries

Regional and local

- many public health departments intensified their efforts at improving health-related living circumstances in deprived areas
- the WHO Healthy Cities movement and a government policy aimed at social renewal have both contributed to this effort
- the data generated by the earlier research program contributed by giving these initiatives a clear focus
- many towns experimented with intervention programs (e.g. increased safety from violence, urban renewal, health education campaigns and assistance with job placement)

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1 See Mackenbach, J. P. (1994). Socioeconomic inequalities in health in the Netherlands: impact of a five year research programme. *British Medical Journal, 309,* 1487-1491.

In 1994, a second five-year research program was undertaken to develop and evaluate community interventions aimed at reducing health problems among lower socioeconomic groups. The committee which convened the 1989-93 research program identified four areas for intervention and these formed the basis for the research and development efforts of the 1994-98 program. These were:

1. Improving the educational, occupational, or income level of those at the bottom of the social hierarchy
2. Reducing exposure to determinants of health problems in the lower socioeconomic groups
3. Minimising the effects of ill health on social mobility
4. Offering extra health care to lower socioeconomic groups

An important feature of the initiatives underway in the Netherlands is the collaboration across government sectors.

Strategic approaches to the reduction of socioeconomic health inequalities have also been undertaken in Sweden and some of these initiatives are discussed by Dahlgren & Diderichsen (1986) and Erikson (1992). See appendix J for details.

Appendix L

Implications of a social ecological approach for health interventions

Sorenson et al.* set out some core ecological principles that may be used in defining operations for intervention design and implementation at the community level (Table). Similar guidelines could be developed for other relevant contexts and settings such as the family, workplaces and schools.

Implications of the social ecological approach for community interventions

Core social and ecological principles	Operating guidelines for intervention design and implementation
Physical, mental and social well-being are influenced by a variety of environmental factors.	Encompass multiple settings and life domains. Reinforce health-promoting social norms through existing social networks.
Personal characteristics and environmental conditions often have interactive as well as direct effects on well-being.	Target changes in the community or organisational environment, as well as in individual behaviours.
The degree of fit between people's biological, behavioural and sociocultural needs and the environmental resources available to them is a key determinant of well-being.	Tailor programs to fit the setting through participation of the community and target audience. Empower individuals to make changes.
Within the context of structured community settings, certain behaviours and roles exert pivotal influences on well-being.	Identify influential points in the community for promoting health. Utilise multiple delivery points and methods over an extended time period.
Examine the links between physical and social conditions within particular settings, and the joint influences of multiple settings and life domains on persons' health over extended periods	Address social conditions and recognise the social context of health behaviours in interventions. Implement coordinated interventions across multiple life domains.
Interdisciplinary research, linking the perspectives of public health, medicine, the behavioural/social sciences, and policy, is essential for developing comprehensive and effective health promotion programs.	Establish a collaborative, interdisciplinary research team. Link results of epidemiological research, intervention research, and policy analysis.

* Sorenson, G., Emmons, K., Hunt, M.K., and Johnston, D. (1998) Implications of the results of community intervention trials. *Annual Review of Public Health, 19, 379-416*

Appendix I

Institutions identified as contributing to Australia's research effort into SES and health

Institution

Adelaide Children's Hospital, Child and Adolescent Mental Health Service
Anti-Cancer Council of Victoria
Australian Bureau of Census and Statistics (Hobart)
Australian Capital Territory Health Service
Australian Institute of Family Studies
Australian Institute of Health and Welfare
Australian Institute for Suicide Research and Prevention (Brisbane)
Australian National University, Department of Demography
Australian National University, Department of Sociology
Australian National University, National Centre for Epidemiology and Population Health
Australian National University, NH&MRC Psychiatric Epidemiology Research Centre
Australian National University, NH&MRC Social Psychiatry Research Unit
Australian National University, Research School of Social Sciences
BHP Medical Centre (Melbourne), Department of Occupational Medicine
Centers for Disease Control and Prevention (USA), National Center for Injury Prevention and Control
Charles Sturt University, School of Social Sciences and Liberal Studies
Chiang Mai University (Thailand), Faculty of Medicine
Child Health Services (Western Australia)
Child, Adolescent and Family Health Service (Adelaide), Magarey Institute
Commonwealth Department of Health (Australian Capital Territory)
CSIRO Division of Human Nutrition (Adelaide)
Curtin University of Technology, Department of Epidemiology and Biostatistics
Deakin University, Department of Human Nutrition
Department of Human Services and Health (Australian Capital Territory), AIDS/Communicable Diseases Branch
Department of Youth and Community Services (New South Wales)
Family Planning Association of Queensland
Flinders University, Department of Public Health
Health Commission of New South Wales, Division of Epidemiology
Health Commission of Victoria
Health Department of Victoria, Dental Health Services Branch
Hillcrest Psychiatric Hospital (Adelaide)
Hornsby Ku-ring-gai Hospital (New South Wales), Northern Sydney Area Public Health Unit
Injury Research Project (Melbourne)
Mental Health Research Institute (Victoria)
Monash University, Centre for the Study of Mother's and Children's Health
Monash University, Department of Geography
Monash University, Department of Obstetrics and Gynaecology

Monash University, Department of Paediatrics
Monash University, Department of Psychology
Monash University, Department of Social and Preventive Medicine
National Heart Foundation (Western Australia)
National Health Strategy
New South Wales Cancer Council, New South Wales Central Cancer Registry
Prince of Wales Children's Hospital (New South Wales)
Princess Margaret Children's Medical Research Foundation (Perth)
Queensland University of Technology, School of Public Health
Royal Alexandra Hospital for Children (Sydney), Community Paediatric Unit
Royal Australian College of General Practitioners (New South Wales), General Practice and Primary Care Research Unit
Royal Children's Hospital (Brisbane), Department of Child Health
Royal Children's Hospital (Melbourne), Department of Paediatrics
Royal Children's Hospital (Melbourne), Clinical Epidemiology and Biostatistics Unit
Royal North Shore Hospital (New South Wales), Department of Medicine
Royal Prince Alfred Hospital (Sydney)
Royal Women's Hospital (Victoria)
South Australian Health Commission
South Australian Health Commission, Epidemiology Branch
South Australian Health Commission, Public and Environmental Health Division
South Australian School Dental Service
South Coast Regional Health Authority (Queensland), Community Health Services
St George Hospital (New South Wales), Department of Surgery
Sydney Hospital, Sydney Sexual Health Centre
University of Aberdeen (Scotland), Department of Public Health
University of Adelaide, Department of Community Medicine
University of Adelaide, Department of Dentistry
University of Adelaide, Department of Obstetrics and Gynaecology
University of Adelaide, Department of Psychiatry
University of Melbourne, Centre for Adolescent Health
University of Melbourne, Department of Ophthalmology
University of Melbourne, Department of Paediatrics
University of Melbourne, Department of Public Health and Community Medicine
University of Melbourne, School of Behavioural Science
University of Melbourne, School of Dental Science
University of Melbourne, Statistical Consulting Centre
University of New South Wales, Department of Medicine
University of New South Wales, Department of Social Work
University of New South Wales, Department of Sociology
University of New South Wales, School of Geography
University of New South Wales, School of Health Services Management
University of New South Wales, School of Medical Education
University of New South Wales, Social Policy Research Centre
University of Newcastle, Centre for Clinical Epidemiology and Biostatistics
University of Newcastle, Department of Statistics
University of Newcastle, Faculty of Education
University of Newcastle, Faculty of Mathematics
University of Newcastle, Faculty of Medicine
University of Newcastle, Faculty of Medicine and Health Sciences

University of North Carolina (USA), Department of Dental Ecology
University of Otego (New Zealand), Community Studies Development Unit
University of Queensland, Department of Anthropology and Sociology
University of Queensland, Department of Child Health
University of Queensland, Department of Obstetrics and Gynaecology
University of Queensland, Department of Psychiatry
University of Queensland, Department of Social and Preventive Medicine
University of Queensland, Faculty of Medicine
University of Queensland, Mater Children's Hospital Paediatric Unit
University of Sydney, Department of Community Medicine
University of Sydney, Department of Ophthamology
University of Sydney, Department of Psychological Medicine
University of Sydney, Department of Public Health and Community Medicine
University of Sydney, Faculty of Education
University of Sydney, Faculty of Health Sciences
University of Sydney, Faculty of Medicine
University of Tasmania, Biochemistry Department
University of Tasmania, Department of Obstetrics and Gynaecology
University of Tasmania, School of Pharmacy
University of Western Australia, Department of Medicine
University of Western Australia, Department of Paediatrics
University of Western Australia, Department of Psychiatry and Behavioural Science
University of Western Australia, Department of Public Health
University of Western Australia, Department of Surgery
University of Western Australia, Royal Perth Hospital Department of Medicine and Western Australian Heart Research Institute
University of Western Australia, Women and Infants Research Foundation
Westmead Hospital (New South Wales), Department of Virology
Women's and Children's Hospital (North Adelaide), Ambulatory Paediatric Services

Appendix J

Annotated bibliography of selected references relating to policies and interventions to reduce socioeconomic health inequalities

Acheson, D. (1998) *Independent Inquiry into Inequalities in Health*. London: Stationery Office.

Adopted Whitehead's (1995) model of determinants of health.

Socioeconomic inequalities represent differential exposure to risks associated with socioeconomic position. The inquiry recommends that intervention needs to occur on a broad front. A broad approach reflects scientific evidence that health inequalities are the outcome of causal chains that run back into and from the basic structure of society. This approach is also necessary because many of the factors are interrelated. Interventions are less likely to be effective if the focus is solely on one point and if complementary action is not in place which influences a linked factor in another policy area.

Policies need to be both upstream and downstream.

Andrain, C. (1998). *Public Health Policies and Social Inequality*. New York: New York University Press.

A comprehensive political and economic analysis of eight nations and public health policies. Part I describes three 'models' of health care systems: the entrepreneurial model (United States), the organic corporatist model (Germany), the social democratic model (Sweden). Part II provides three theories of public health programs: political culture, political power and rational choice. Part III evaluates health policies and outcomes and begins with a theory of social opportunity and discusses social stratification and determinants of health at macro and micro levels. Evaluates impact of public policies on health including: income inequality, workplace and housing, individual attitudes (psychosocial) and lifestyles, access to health for mothers and infants. Overall very comprehensive, deals with global forces and macro issues and evaluates policies that impact on health.

Arblaster, L., Lambert, M., Entwistle, V., Forster, M., Fullerton, D., Sheldon, T., & Watt, I. (1996). A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research and Policy*, *1(2)*, 93-103.

Reviews the available evidence in order to identify effective interventions which health services alone or in collaboration with other agencies could use to reduce inequalities in health. Only studies with an experimental design were included (n=94 + 21 reviews). The health categories considered include: accidents; cancers; coronary heart disease/stroke; sexual health and mental illness; pregnancy and childbirth. The main inequalities considered are those related to SES, age and ethnicity.

The interventions considered here fall into two categories:

1. Entry-point strategies, namely, those that target effective health services or interventions at groups with the greatest health needs.

2. Those targeted at risk factors.

Summary of reviews assessing effectiveness of health care interventions

Accidents: Prevention in children and adolescents, inconclusive evidence about effectiveness among lower SES

Cancers: Interventions can be successfully carried out to reduce the incidence of smoking in deprived groups. Prompts and incentives improved attendance for follow-up appointments after women living in a deprived urban community received an abnormal smear result.

CHD/Stroke: No evidence reported relating to reducing SES inequalities

Sexual health, HIV/AIDS and preventing teenage pregnancy: No evidence reported relating to reducing SES inequalities

Mental Health: Is more profoundly affected by SES factors than many other dimensions of health. Few good evaluations of interventions aimed at improving mental health in deprived populations were identified.

Pregnancy and Childbirth: For those on low income, close association between lack of support for health care costs and low uptake of health care services. Social support, especially for socially disadvantaged mothers can reduce likelihood of adverse outcomes for the baby, including: child abuse/neglect, severe nappy rash, middle ear infection, high blood pressure and delayed immunisation. Also, supported mothers are less likely to become pregnant again in the 18 months following childbirth. However, a review of eight randomised control trials found that social support for at-risk pregnant women was not associated with improvements in any medical outcomes of pregnancy.

Characteristics of successful interventions aimed at improving the health of disadvantaged groups

Intensive approaches: vigorous or intensive approaches have been shown to improve the identification and subsequent effective treatment of individuals, especially from deprived populations. However, the evidence is not clear, there is research which shows that intensive approaches do not necessarily work.

Community commitment: only focusing on the individual ignores the fundamental structural determinants of social behaviour, thus an emphasis on ensuring the community in which the intervention was taking place was important.

Multi-disciplinary approaches: a number of agencies involved in the intervention can facilitate the adoption of different strategies e.g. the development of improved information systems and harnessing more resources.

Multifaceted interventions: several successful programs employed a combination of interventions to improve the health of deprived populations e.g. combining education and legislation more effective than education alone.

The importance of the agent delivering the intervention: the people who deliver the intervention may be as important as the intervention and its setting e.g. several successful interventions carried out by volunteers recruited from target population and trained to perform the task.

Others: Provisions of material support and resources e.g. provision of prompts and reminders to attend services, developing skills.

Discussion

Only a few of the evaluations reviewed were of good quality and a number of common but avoidable problems with the design and execution of the studies were identified:

- limited description of the nature and content of the interventions used
- sample sizes often too small
- many evaluations conducted without any attempt to identify a control group
- when a control group was identified, many failed to carry out and/or report baseline measurements
- follow-up periods too short for value of intervention to be assessed

Thus care must be taken not to over analyse the study results in an attempt to extract lessons for practice.

Two population-wide programs in the USA designed to tackle the effects of poverty on growth, development and education have been extensively evaluated.

1. The Special Supplemental Food Program for Women, Infants and Children (WIC), initiated in 1972 to improve the nutrition of low-income women and children. Evaluation of this program showed a statistically significant correlation between intensity of WIC service and health-related outcomes such as mean birthweight and late foetal death.
2. Project Head Start begun in 1965. Evaluations show short-and long-term benefits on cognitive and health-related outcomes

Characteristics common to both include intensity or targeting of those in need and a broad, multidisciplinary perspective including social services, nutrition and health-related interventions.

Conclusions

This review focused on interventions which health services can implement alone or with other agencies. Since it is likely that non-health service factors contribute most to health inequalities, they are likely to have a crucial role to play in the reduction of inequalities in health. Strategies available range from social and economic policy aimed at addressing fundamental inequalities in society, to health care interventions which essentially leave intact the system that generates the inequalities.

The relative effectiveness and efficiency of different approaches is an empirical question that requires more research. In the absence of comprehensive empirical evidence, the ultimate choice of strategy is political.

Babazono, A., & Hillman, A. L. (1994). A comparison of international health outcomes and health care spending. *International Journal of Technology Assessment in Health Care, 10(3)*, 376-381.

Objective: Does increased spending improve health outcomes? 1988 data from OECD countries were analysed to determine how key health care indexes correlate with health care outcomes.

Findings: Total health care spending per capita and outpatient and inpatient utilisation are not related to health outcomes.

Why?

1. Health care resources are not the only factor predicting health outcomes; health outcomes are affected by both health care resources and non-health care resources. Since available resources are limited, other investments, (such as education and housing) may suffer if too much is spent

on health care. Moreover, the marginal benefit of health care spending decreases as more is spent on health care.

2. The effectiveness of medical services is determined not only by how much total money is actually spent but also how those resources are allocated. For example, in the US 37 million uninsured citizens have a higher mortality rate than those who are insured.

Conclusion: How health care spending is balanced with non-health care spending and how health resources are allocated are more important predictors of health outcomes than how much is actually spent.

Dahlgren, G., & Diderichsen, F. (1986). Strategies for equity in health: report from Sweden. *International Journal of Health Services, 16(4)*, 517-537.

In recent years, the Swedish debate on health policy has been focusing on resource allocation between primary care versus secondary care, private care versus public care, and prevention versus care. The National Commission on the "Swedish Health Services in the 1990's" brought attention to the prevailing inequalities in health. The Health Policy Bill of 1985 defines the reduction of inequalities in health as a major target of national health policy. The health policy measures discussed are mainly outside the health care sector.

Dahlgren, G., & Whitehead, M. (1992) *Policies and Strategies to Promote Equity in Health*. Copenhagan: WHO.

Part one

Framework for policy-making:

The framework is based on causes of inequities in health i.e. those that are avoidable and unacceptable, including:

1. Factors associated with economic resources and the physical and social environment in which people live and work
2. Risk factors associated with personal behaviour (lifestyle)
3. Health care - poorer provision, uptake and quality of essential services in communities with greatest need
4. Downward social mobility of sick people

Policies that address inequities in health could be aimed at one of three goals:

1. Tackle causes of inequities by reducing level of risk factors and health hazards (or prevent them from occurring in the future)
2. Minimise health damage caused by risk factors by helping people to cope better with risks they face
3. Make sure the quality and volume of health care match the increased volume and complexity of ill health found in communities or groups facing excessive risks and hazards

1. Information systems often not geared to identifying social groups at potential risk, and to monitor health status over time. An ongoing research strategy may be required to give greater insight into causes of health inequalities
2. Selecting a starting point after research reviewed, priorities decided, and points of intervention identified. Three possible starting points:

- Disease approach
- Risk factor approach
- Entry point approach: identify social or occupational groups at risk

All these approaches may be used simultaneously

3. Organisation and Management: structures for implementing public health policies to promote equity in health are almost non-existent in most countries. Lack of management and structural initiatives are barriers to the development of equity policy. Epidemiologic surveys and analysis of health problems are loosely (if at all) linked to those agencies able to initiate specific actions. Some countries are beginning to deal with these issues. For example, in 1991 the Swedish parliament passed a bill requiring all national public agencies and authorities to report to parliament on specific goals to reduce socioeconomic health inequalities, and to analyse the health impact of all national policies. An institute for Public Health was set up to develop policies to improve health-related conditions for the disadvantages
4. Securing Financial Resources: new ways of generating finances - Sweden set up a special fund by levying a short-term tax.
5. Monitoring and Evaluation: set targets for improvement. These could be *differential* targets for selected groups, or, *action* targets, e.g. alterations to tax and benefits systems, improvement in housing, pollution control

Part 2

Examines some of the key determinants of health inequalities, specifically, factors in the physical and social environment, barriers related to personal lifestyles, and factors related to health care. For each category, the nature of the problem is considered from the point of view of equity and the policy implications are then outlined, with examples given of strategies that have been put into effect in various European settings.

Erikson, R. (1992). Social policy and inequality in health: considerations from the Swedish experience. *International Journal of Health Sciences, 3(3/4)*, 215-222.

Social policy in Sweden focuses more on welfare inequalities than on poverty. Welfare is understood as multidimensional incorporating income, housing, employment and conditions at work, social relations, health, knowledge and skills. The Swedish ‘level of living’ study has demonstrated that welfare is unequally distributed (but less so than in other countries). Social policy might have contributed to a more equal distribution of welfare, but there is no evidence proving such a link. The goal of health equity is discussed.

Gepkins, A., & Gunning-Schepers, L. J. (1996). Interventions to reduce socioeconomic health differences: a review of the international literature. *European Journal of Public Health*, *6(3)*, 218-226.

Objective

To review information on evaluated interventions to reduce socioeconomic health differences and to examine studies to identify possible conditions for success.

Methods

Literature search yielded 98 publications and 31 ‘grey’ literature reports.

Findings

Many of the interventions described are reported to be effective. Structural measures appear to be most effective, but cannot be taken to affect all determinants. Interventions involving health education only appear to be successful if providing information is combined with personal support or structural measures. Many very creative interventions to reduce socioeconomic health inequalities have been reported, and several appear to be effective. But all address only a small aspect of health inequalities. The lack of standardised measures and a common methodology impair our ability to integrate and compare results.

Link, B., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior*, *(Extra Issue)*, 80-94.

Epidemiological studies have been enormously successful in identifying risk factors for major diseases. However, most of this research has focused attention on risk factors that are relatively proximal causes of disease. The authors question the emphasis on such individually-based risk factors and argue that greater attention must be paid to basic social conditions if health reform is to have maximum impact. Two reasons are provided for this claim. First, individually-based risk factors must be contextualised, i.e. what puts people at risk of risks. Second, social factors such as SES and social support are likely "fundamental causes" of disease because they embody access to important resources, affect multiple disease outcomes through multiple mechanisms, and consequently maintain an association with disease even when intervening mechanisms change. Without careful attention to these possibilities, we run the risk of:

1. Imposing individually-based intervention strategies that are ineffective
2. Missing opportunities to adopt broad-based societal interventions that could produce substantial health benefits.

Mackenbach, J. P. (1994). Socioeconomic inequalities in health in the Netherlands: impact of a five year research programme. *British Medical Journal*, *309*, 1487-1491.

The attention paid to socioeconomic health inequalities in the Netherlands has increased greatly in recent years. A national research program was started in 1989, and among other things, has increased the yearly number of publications on SES and health by about 25%. The program has also increased awareness of inequalities among researchers and policy makers as well as improved the information available on health inequalities and the reasons for them. Cross party agreement on the need to reduce these inequalities has led to a consensus-based approach that contrasts with the heavily politicised debate in countries such as the United Kingdom.

Mackenbach, J. P., & Gunning-Schepers, L. J. (1997). How should interventions to reduce inequalities in health be evaluated. *Journal of Epidemiology and Community Health*, *51*, 359-364.

Objective

The effectiveness of interventions that have been proposed or are currently in progress to reduce socio-economic inequalities in health is largely unknown. This paper aims to develop guidelines for evaluating these interventions. Authors distinguish between the evaluation of specific interventions and the evaluation of broader policies.

Specific interventions lend themselves more easily to manipulation in an experimental design, thus classic study designs such as randomised control trials (RCT) and community intervention trial (CIT) will be able to be used. This paper focuses on the evaluation of specific interventions.

Approach

Starting from a set of general guidelines recently proposed by a group of experts reporting to the National Programme Committee on Socio-economic Inequalities in Health in the Netherlands, an analysis was made of the appropriateness of different study designs which could be used to assess the effectiveness of interventions to reduce inequalities in health.

Results

A "full" study design requires the measurement, in one or more experimental populations and one or more control populations, of changes over time in the magnitude of socioeconomic inequalities in health. This will usually imply a community intervention trial. Five alternative study designs are distinguished which require less complex measurements but also require more assumptions to be made. Several examples are given.

Conclusions

Building up a systematic knowledge base on the effectiveness of interventions to reduce socioeconomic inequalities in health will be a major enterprise. Elements of a strategy to increase learning speed are discussed. Although the guidelines and design recommendations developed in this paper apply to the evaluation of specific interventions where rigorous evaluation methods can often be used, they may also be useful for the interpretation of the results of less rigorous evaluation studies, for example of broader policies to reduce socioeconomic inequalities in health.

National Advisory Committee on Health and Disability (1998). *The Social, Cultural and Economic Determinants of Health in New Zealand*. Wellington: National Advisory Committee on Health and Disability.

Framework

Four areas for possible policy interventions:

- Underlying social and economic determinants
- Factors that are intermediate between socioeconomic determinants and health
- The effect of ill health on socioeconomic position
- Health and disability support services

Reviews of evidence for effective interventions

Reviews of interventions have found that structural measures appeared to be effective most often - structural interventions were mostly directed towards improving financial accessibility of health and support services. Health education strategies focusing on behavioural risk factors are of limited effectiveness unless combined with personal support or structural measures. There is a paucity of evidence about the health impact of broader social or economic policies, or of the effectiveness of population-based health measures.

Characteristics of interventions that were successful at reducing inequalities:

- Improving access to health services, appointment of a patient navigator to assist at-risk groups with personal, medical and social problems they encounter in the health care system. Provision of cervical cancer screening and breast examination by nurses during routine visits to low income women
- Planned, systematic and intensive approaches to delivering effective interventions
- Prompts to encourage use of services
- A multifaceted approach which involves a combination of strategies
- Inter-agency collaboration
- Ensuring that interventions address the expressed or identified needs of the target population
- Development of skills in target groups
- Involvement of peers in the delivery of interventions

There is evidence that health promotion programs may produce limited changes in risk factors and population mortality in the absence of a wider strategy to address socioeconomic factors

Poland, B., Coburn, D., Robertson, A., & Eakin, J. (1998). Wealth equity and health care: a critique of a "population health" perspective on the determinants of health. *Social Science and Medicine*, *46(7)*, 785-798.

Examines the concept of 'population health' and critiques it from a political economy perspective. Argues that the population health perspective lacks an explicit theory of society and of social change and provides a convenient cover for those who wish to dismantle the welfare state in the name of deficit reduction. The alternative view stresses that the factors 'producing' health status are contained within a larger context (i.e. advanced industrial capitalism). They suggest alternative policy avenues, critique economic rationalist policies and examine the likely effects of globalisation.

Roemer, M. I., & Roemer, J. E. (1982). The social consequences of free trade in health care: a public health response to orthodox economics. *International Journal of Health Services*, *12(1)*, 111-129.

In recent years, difficulties in U.S. health services have been ascribed to excessive government intervention and regulation. High costs and other problems would be solved, it is argued, by "return to the free market and competition". Examination of the past operations of free trade and competition in health care, however, shows that in this market not one of at least five conditions necessary for effective competition exists. Numerous adjustments made by society reflect the problems caused by these market deficiencies (such as seriously inadequate information or the presence of major social "externalities"). Furthermore, even these adjustments - such as medical ethics or health insurance - have generated serious secondary problems. Many types of waste and social inequity also persist, in spite of all the attempts to compensate for market failure. In effect, the so-called free market in health care has survived only because of the extensive regulations and other actions taken to patch it up. Abandoning these adjustments would further aggravate current problems. Only replacement of free trade by systematic social planning could hope to achieve a health care system that allocates resources and distributes services both efficiently and equitably.

Saltman, R. B. (1997). Equity and distributive justice in European health care reform. *International Journal of Health Services*, *27(3)*, 443-453.

Equity is a central objective of most European health care systems, yet equity, particularly in the form of distributive justice, has not been a central objective of many recent health sector reforms. This article considers three aspects of the relationship between equity and recent health reforms. After defining what is meant by equity in the health sector, the author briefly examines available evidence on present levels of equality then discusses the equity implications of ongoing reforms in European health care systems.

Saltman, R. B., & Figueras, J. (1997). *European Health Care Reform*. Anonymous. Copenhagen: WHO European Regional Office.

Many governments in the WHO European Region are reviewing their health care systems and the suitability of their existing approaches to financing, organising and delivering health care services. This report provides a broad overview of the health and health sector challenges faced by policy-makers in the European Region in the second half of the 1990's, and reviews the available evidence on the impact of key reform strategies. The study's findings are based on over 30 background papers written by a team of scholars from all parts of Europe, Canada, the World Bank and WHO.

World Health Organisation. (1998) *Taskforce on Equity: Key Issues for the World Health Organisation.* Draft Discussion Paper: World Health Organisation.

Framework

Addressing issues of equity in health requires looking at a hierarchy of approaches, from up-stream broad socio-economic and cultural influences on health, to health systems policies. Defining outcome measures for success will always be easier for specific interventions than broad policies; but observation of time trends and historical evidence can effectively explore causal relationships between major new policies and a reduction (or increase) in socio-economic inequalities in health.

Macroeconomics, redistributive policies and equity

Attributing causation between macro-economic policies and change in equity in health can be problematic, due to the complexity of linkages between variables and indirect influences. The relationships between absolute and relative poverty, income inequality and health still require elaboration. In addition, most studies looking at the effects on health use aggregate data which may have different effects on different sections of the economy/society. In the US, where income inequalities have risen markedly since mid-70s, differences in death rates between black and white men are wide and increasing; evidence suggests SES is the major contributor

Health systems and equity

Persisting health inequalities in developed countries show that relatively equitable health care systems alone cannot counter-act inequities in other determinants of health, such as income and education inequalities.

There are three key elements important in assessing equity in health systems:

- Progressive financing and equitable resource allocation within the health system
- Universal entitlement/universal access
- Quality of health services

Financing of health systems

The better-off utilise more frequently than the poor. The key goals of comprehensive coverage, universal access to benefits, financial efficacy and accountability are closely met in the ideal progressive tax-based health system. Cost recovery aimed at increasing resources for health and improving efficiency has been introduced in many countries that were primarily tax-financed. Evidence to date suggests that this is highly regressive in its impact on the poor, especially, women and children. Demand for health care has been shown to be highly price elastic for the poor, e.g. one study showed a proportionately greater drop in use by subgroups (the poor, infants and children) for a given price increase. Targeting health care is administratively difficult and costly

Although universal untargeted free health care may appear less efficient, it may be more effective, both in reaching the desired population and in maintaining political sustainability/ solidarity of pro-poor policies

Income and income distribution

Overall population health status has an effect on the economy as well as that of the economy on health - attributing causation can be problematic. The relationships between absolute and relative poverty, income inequalities and health still require elaboration.

Studies suggest that economies with very unequal income distributions have generally grown at a slower rate. A highly unequal income distribution makes it harder to reduce poverty; reducing inequality in income will increase the numbers who benefit from the same average rate of growth.

Social policy—education, employment, taxation

Public health spending is more important than average income growth in its impact on mortality. Poverty reduction in itself leads to growth; growth contributed to only about half of the poverty reduction in the countries examined, the rest being dependent on social policy measures.

Discussion

Equity in health is clearly an issue intimately related to human development. Health systems can have only a limited impact when other major determinants of health remain unchanged. There are countries where despite negative economic growth, health indicators have continued to improve. The evidence of linkages between absolute and relative poverty and health suggests that where there is increasing poverty or widening income inequalities, reasonable conclusions can be drawn about the relationship with health outcomes. The average health status of any country is disproportionately influenced by the relatively strong effect of poverty on the health of its poorest citizens i.e. if a policy has a disproportionately greater negative impact on the poor, it will also likely disproportionately affect average health outcomes. However, analysis of the links between macroeconomics and health requires sufficient disaggregation of data to allow the impact of such policies on different population sub-groups. The association between growth in *average* incomes and changes in income mortality is not direct. The initial underlying income distribution and the pattern of growth are both significant.

Economic growth in itself does not improve equity, and conversely, equity policies can be reserved even when there is little economic growth. Mean income growth with *increasing* inequality represents lost opportunities for poverty reduction, and can harm further prospects for growth.

Protection and promotion of basic social services, housing and poverty alleviation strategies need to be considered if health outcomes are to be protected.

The impact of health sector reforms, especially those which directly or indirectly strengthen the private sector, have significant equity implications:

- Empirical evidence shows that private provision (as well as increased private financing) is associated with escalation of costs

- Asian experience has shown that demand from those who are able to pay may skew the health system away from promoting overall health system objectives such as equity
- Generally, user fees and insurance are associated with more regressive funding
- Private-for-profit providers do not have any obligation to equitably provide care

The improvements in health and equity achieved both in industrialised and developing countries have not been inevitable - they resulted from improvements in the key determinants of health, including working conditions, nutrition, housing, health systems and education. These were not agentless or an inevitable consequence of market capitalism. The political struggle involving public health advocates, trade unions and women's movements was crucial in securing basic conditions.

Tsouros, D. (1991). *World Health Organisation Health Cities Project.* Anonymous. Copenhagen: WHO Regional Office for Europe.

The WHO Healthy Cities Project is a long-term development project that seeks to put health on the agenda of decision-makers in the cities of Europe and to build a strong lobby for public health at the local level. The project was initiated in 1985 and has grown to include 30 project cities in Europe and 17 national networks. It has become an international movement involving more than 400 cities in Europe, North America and Australia. This report provides an assessment of the progress and achievements of the project up to 1990.

Whitehead, M. (1995). Tackling inequalities: A review of policy initiatives. In M. Benzeval, K. Judge, & M. Whitehead (Eds.), *Tackling Inequalities in Health: An agenda for action.* London: King's Fund.

Framework

Four layers of influence (apart from age, sex and hereditary factors):

- Individual lifestyle factors
- Social and community influences
- Living and working conditions
- General socioeconomic, cultural and environmental conditions

Policy responses

Searches of the literature for evaluated interventions tackling inequalities in health reveal that there are four main policy levels of intervention:

- Strengthening individuals
- Strengthening communities
- Improving access to essential facilities and services
- Encouraging macroeconomic and cultural change

1. Policies that attempt to strengthen individuals aim to change peoples' behaviour or coping skills through personal education and/or empowerment. General health education messages have had a limited impact on people from disadvantaged backgrounds because the pressures of their lives constrain the scope for behaviour change. However, more sensitive interventions that combine education and support can have a positive effect on the health of the disadvantaged, if they are carefully tailored to their needs and combine with action at other policy levels.

2. Policies that aim to strengthen communities have either focused on strengthening their social networks or they have adopted a broader strategy that develops the physical, economic and social structures of an area. Such initiatives can, through involving the community itself in the determination of priorities, change the local environment, services and support systems in ways that promote equity in health.
3. Despite some successes, efforts to strengthen individuals and communities have had a minimal impact on reducing inequalities in health. They have tended to treat the symptoms rather than underlying causes of the problem, plus many interventions have been discrete experiments or projects involving relatively few individuals and neighbourhoods - thus their overall impact can only have been minimal. The challenge is to make the effective approaches more widespread, part of the mainstream services offered to people.
4. A key finding is that some strategies have the potential for long-term impact – e.g. studies of social support for pregnant teenagers. Early education of preschool children from disadvantaged backgrounds, suggests far-reaching effects on school drop-out rates, arrest rates, entry into further education, and teenage pregnancy rates. However, because of the difficulty of evaluating effects over these long time periods, all these findings are tentative and require further confirmation.
5. Improvements in day-to-day living and working conditions and access to services have been shown to be beneficial for the health of populations. Initiatives at this level include some of the classic public health measures to improve access to adequate housing, sanitation, clean food, safer workplaces and health and welfare services.
6. Experience with policies at level 4, to bring about macroeconomic and cultural changes, shows the importance of looking at the distributional effects of policies as well as their aggregate impact. That is, for rich countries the degree of inequality in income distribution seems to be very important for explaining the rate of infant mortality. Economic and welfare policies during the 70s and 80s have resulted in widening differentials in income between the well-off and the poor, followed by a widening gap in life expectancy (in the USA). As yet, evidence for this is only suggestive, but points to areas for urgent study
7. Economic policies that have protected or improved the standard of living of the poor have shown beneficial health effects, large enough sometimes to be reflected in health statistics for the whole population. This evidence suggests some key policies:

- Income maintenance policies that provide adequate financial support for people who fall into poverty,
- Education and training policies that help prevent poverty in the long term,
- More equitable taxation and income distribution policies.

When considering policy options at the 4 levels, not only do the inter-relationships between them stand out, but also a need for more *strategic* approaches incorporating actions across sectors and at various levels.

More strategic approaches

A strategic approach is crucially important for tackling health inequalities because the differentials are caused by inter-related social and economic factors. Two examples at the national level are the Netherlands and Sweden.

Whitehead, M., & Dahlgren, G. (1991). What can be done about inequalities in health? *The Lancet*, *338*, 1059-1063.

Three general observations can be made about the various responses from different parts of Europe.

1. In a number of countries, inequality in health has changed from a political non-issue in the 60s & 70s, to one occupying centre stage
2. Where action has taken place it starts with small manageable problems, rather than a comprehensive, coordinated plan.
3. Initiatives have been taken at different levels, success often entails cooperative action across sectors

Such initiatives show that something can be done about socioeconomic health inequalities, but there is no blueprint. Effective policy has to be tailored to suit the systems operating in a particular country or district.

National and local health strategies would be more efficient and more likely to achieve their targets if more attention were paid to the issue of equity. The gains could be even greater if efforts at different levels and in different sectors were coordinated into soundly based national policies.

Appendix K

A strategic approach to reducing socioeconomic health inequalities

The Netherlands as a case study

This section summarises a paper that provides an overview of achievements in the Netherlands in the area of socioeconomic health inequalities.[1] In 1986, the Dutch government adopted the *Health For All* policy targets of the World Health Organisation. This was followed by a conference in 1987, convened by the Scientific Council for Government Policy. The proceedings were published and contained a proposal for a national research program which was launched in 1989. The main objectives of that program were to generate more knowledge about the size and nature of socioeconomic inequalities in health and the reasons for them. Some of the outcomes of the program include:

- 40 studies were commissioned, most of which were small scale secondary analyses of data collected in epidemiologic studies
- investments were made to improve conditions for future research
- a standardised procedure for measuring socioeconomic status on the bases of education, occupation or income was developed
- a computerised method for collecting this information from respondents was developed
- a documentation centre was established to monitor the scientific literature on socioeconomic health inequalities (in the Netherlands and internationally)

The Scientific Council convened a second conference in 1991. Attendees included representatives from most political parties and relevant ministries, health care organisations and the medical professions. Since that conference, several policy initiatives have been taken at the national, regional and local levels.

National

- an intersectoral working group was formed to stimulate cooperation between various ministries

Regional and local

- many public health departments intensified their efforts at improving health-related living circumstances in deprived areas
- the WHO Healthy Cities movement and a government policy aimed at social renewal have both contributed to this effort
- the data generated by the earlier research program contributed by giving these initiatives a clear focus
- many towns experimented with intervention programs (e.g. increased safety from violence, urban renewal, health education campaigns and assistance with job placement)

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1 See Mackenbach, J. P. (1994). Socioeconomic inequalities in health in the Netherlands: impact of a five year research programme. *British Medical Journal, 309,* 1487-1491.

In 1994, a second five-year research program was undertaken to develop and evaluate community interventions aimed at reducing health problems among lower socioeconomic groups. The committee which convened the 1989-93 research program identified four areas for intervention and these formed the basis for the research and development efforts of the 1994-98 program. These were:

1. Improving the educational, occupational, or income level of those at the bottom of the social hierarchy
2. Reducing exposure to determinants of health problems in the lower socioeconomic groups
3. Minimising the effects of ill health on social mobility
4. Offering extra health care to lower socioeconomic groups

An important feature of the initiatives underway in the Netherlands is the collaboration across government sectors.

Strategic approaches to the reduction of socioeconomic health inequalities have also been undertaken in Sweden and some of these initiatives are discussed by Dahlgren & Diderichsen (1986) and Erikson (1992). See appendix J for details.

Appendix L

Implications of a social ecological approach for health interventions

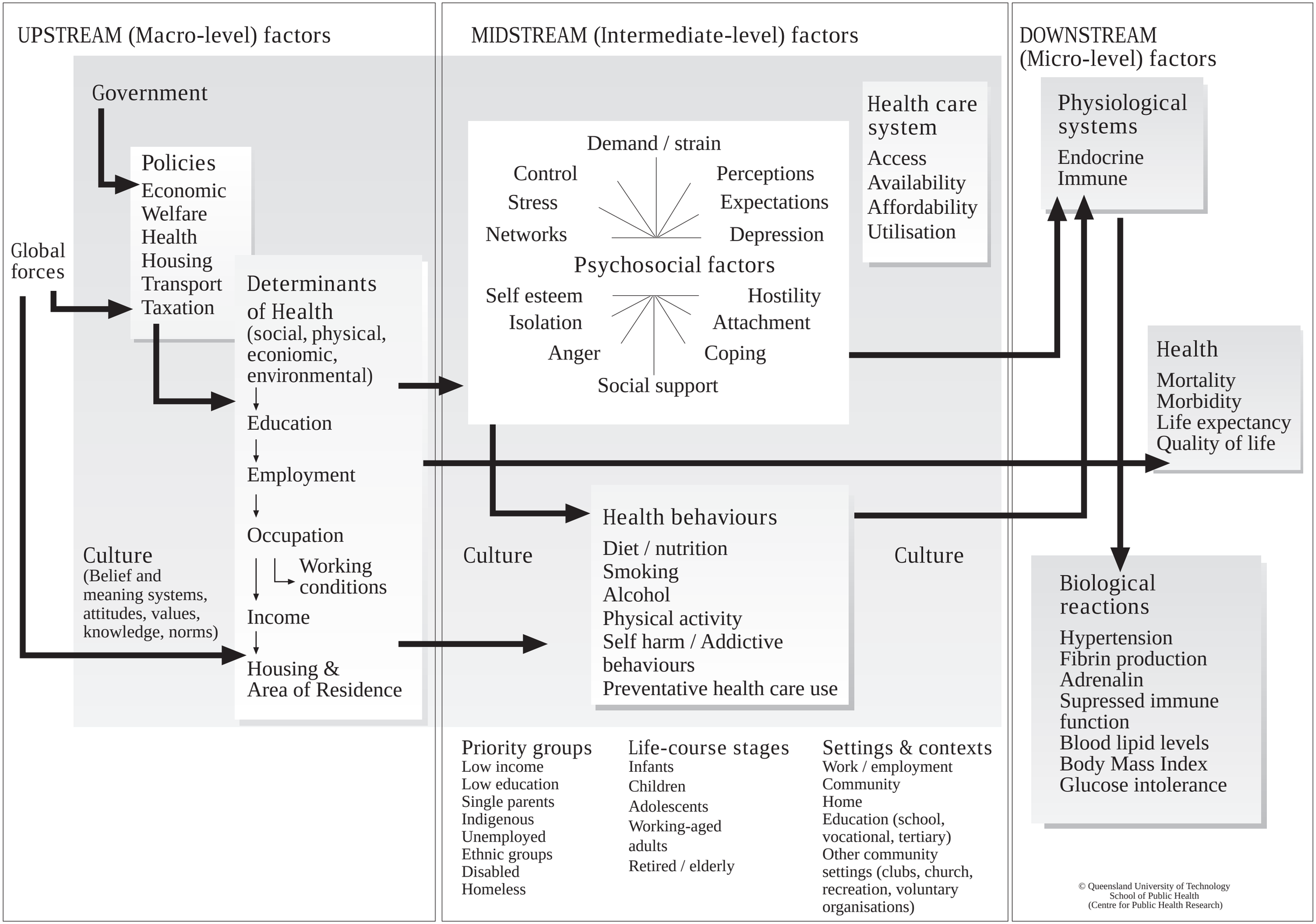
Sorenson et al.* set out some core ecological principles that may be used in defining operations for intervention design and implementation at the community level (Table). Similar guidelines could be developed for other relevant contexts and settings such as the family, workplaces and schools.

Implications of the social ecological approach for community interventions

Core social and ecological principles	Operating guidelines for intervention design and implementation
Physical, mental and social well-being are influenced by a variety of environmental factors.	Encompass multiple settings and life domains. Reinforce health-promoting social norms through existing social networks.
Personal characteristics and environmental conditions often have interactive as well as direct effects on well-being.	Target changes in the community or organisational environment, as well as in individual behaviours.
The degree of fit between people's biological, behavioural and sociocultural needs and the environmental resources available to them is a key determinant of well-being.	Tailor programs to fit the setting through participation of the community and target audience. Empower individuals to make changes.
Within the context of structured community settings, certain behaviours and roles exert pivotal influences on well-being.	Identify influential points in the community for promoting health. Utilise multiple delivery points and methods over an extended time period.
Examine the links between physical and social conditions within particular settings, and the joint influences of multiple settings and life domains on persons' health over extended periods	Address social conditions and recognise the social context of health behaviours in interventions. Implement coordinated interventions across multiple life domains.
Interdisciplinary research, linking the perspectives of public health, medicine, the behavioural/social sciences, and policy, is essential for developing comprehensive and effective health promotion programs.	Establish a collaborative, interdisciplinary research team. Link results of epidemiological research, intervention research, and policy analysis.

* Sorenson, G., Emmons, K., Hunt, M.K., and Johnston, D. (1998) Implications of the results of community intervention trials. *Annual Review of Public Health, 19, 379-416*

Figure 1.1: A framework of socioeconomic determinants of health



Author

Date

Article ID

Title

IVs

DVs

Data Source

Age

Gender

Final sample size

Response rate (%)

Data collection

Region

Population studied

- Infants
- Children
- Adolescents
- Elderly
- NA / Not stated

Collection methods

- Face to face interview
- Mailed survey
- Telephone survey
- Self-administered survey
- Physical exam
- Mental exam
- Perinatal form
- Focus group
- Participant observation
- Medical records
- Death records
- Other records
- Not stated / unclear
- Response / participation rates

SES measure

- Occupation
- Education
- Income
- Area
- Employment status
- Poverty
- Social class
- Welfare received
- Parental status
- housing tenure
- Car ownership
- Dependents
- Financial problems
- SEIFA
- ABS SES Indicator
- Other SES indexes
- Low SES population
- SES measure not stated

Mortality

- All cause
- Cancers
- CVD
- Stroke
- Liver
- Ulcer
- Alcohol / drug psychoses
- Accident
- Suicide
- Violence /Neglect / Murder
- Diabetes Mellitus
- Mental disorders
- Respiratory disease
- Other

Psychosocial/ Mental health

- Personality type
- Behaviour disturbance
- Mental health
- Mental development
- Social contact
- Developmental disorders
- Non-psychotic mental illness

Study participation

Physical morbidity

- Birthweight
- Pregnancy outcomes
- Height
- Weight
- Development status
- Chronic illness
- Acute illness
- Asthma / bronchitis
- Nonfatal coronary event
- Nonfatal cancers
- Melanoma
- Physical health
- Toxins
- Reduced activity
- Sexual health
- Dental health
- Accidents / injury
- Optic / aural health
- Abuse
- All physical morbidity

Attitudes / knowledge / beliefs

Risk factors

- Physical fitness
- BMI / SFT / WHR
- Hypertension
- Blood cholesterol / lipids
- BMR
- Accident / injury risk

Health services

- Specialist visit
- Doctor / dentist visit
- Hospital visit
- Preventive health /screening
- Educational / informative
- All health services
- AAA (services)
- Medical procedures

Health behaviours

- Physical activity
- Smoking
- Diet
- Alcohol
- Drug use /abuse
- Immunisation
- Breastfeeding
- AAA (behaviours)

Findings

Other info